**CONSTRUCTION**

**MANAGEMENT**

**MASTER SPECIFICATIONS**

**DIVISION 1**

**(Safety and Health)**

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| --- |
| **Level of Use: Reference** |

| **Issue** | **Publish Date** | **Comments** |
| --- | --- | --- |
| 001 |  | Create initial issue. |
| 002 | 01/03/05 | Format changes only. |
| 003 | 03/10/05 | General change. |
| 004 | 04/21/05 | General change. |
| 005 | 07/06/05 | 1.2.C, 1.2.H.1, 1.9.B |
| 006 | 04/26/06 | 1.5.B, 1.5.B.1-3 |
| 007 | 6/28/07 | Change title. Consolidated all safety requirements from 01561, 01562, 01041, 01250, 01559, 01560, into this section. Removed all requirements that were already stated in T&C’s. Incorporated Fire chief updates to the 01562. |
| 008 | 06/09/08 | All of 1.28. |
| 009 | 03/20/09 | Inclusion of P7-3400, 1.17.A, 1.17.D, 1.17.E.3, 1.18.D.2, 1.19.C, 1.30.D, 1.42.C. |
| 010 | 05/1/10 | Clarification on utility trailers, contractor use of explosives, fall protection plan. |
| 011 | 8/17/10 | Clarification to Operations involving use of cranes and non-crane equipment and penetration permits, and format changes. |
| 012 | 3/23/10 | Global changes to clarify Contractor requirements. |
| 013 | 11/22/11 | Occupational Medicine editorial updates. Clarification of wording. |
| 014 | 1/09/12 | Clarification of Fall Protection Plan Process. |
| 015 | 7/13/12 | Change PXSO to NPO. |
| 016 | Est. 12/13/13 | Update fire extinguisher requirements. |
| 017/U‑51157 | Est. 3/1/14 | Include voltage rated rubber gloves requirement. |
| 018/U-51959 | Est. 10/01/14 | Remove Contents of Section 1.6, Occupational Medicine, and refer Users to Division I Specification 1450, Occupational Medicine. |
| 019/U-53286 | Est. 04/01/15 | To add Section 1.7.D to include hazardous zone requirements. |
| 020/U‑54160 | Est. 07/31/15 | Add: Discussion of use of PX-6109 with references. Required review/labeling of Asbestos Containing Materials (ACM). Inclusion of Scope of Work (SOW) with Asbestos Abatement Submittals. Use of AHA prior to job briefings.  |
| 021/U-57210 | 8/7/17 | Adds additional guidance and requirements for protection against silica dust. |
| 022U-59282 | 04/20/18 | Adds additional safety and meeting requirements related to personnel changes and equipment evaluation prior to use.  |
| 023/U-59824 | 01/03/19 | Update silica protection requirements.  |
| 024/U-60369 | 05/13/19 | Sections 1.47 -1.49 to provide guidance and/or direction to contractors for use of electronic filing of initial and subsequent notifications with DSHS when asbestos abatement or building demolition is being doing; and for subsequent payment of related fees. As the building owner (DOE) is responsible for ALL compliance, assurance is needed.Add safety requirements for “Hot Tap” operations and updates to existing specifications as needed. |
| 025/U-001633 | 04/30/20 | Section 1.39 was updated to include additional Explosive Safety Requirements.  |
| 026/U-003373 | 02/25/21 | Section 1.36 was updated to change the fire watch requirement from 30 minutes to 60 minutes. Sections 1.53 and 1.55 were updated to provide additional clarification of requirements for lead abatement and crystalline silica. Section 1.56 was added to define the requirements for mercury abatement.  |
| 027/U-004748 | 10/01/21 | Section 1.18 was updated to add requirements for inspections for portable electric devices. Section 1.24 was updated to reflect changes to requirements for drill stops. Section 1.25 was updated to reflect changes to requirements for PPE for hydro-vac excavations. Section 1.30 was updated to clarify requirements for authorization for Lift Plans and add requirements for use and inspection of rigging accessories and slings. Sections 1.35 and 1.47 were updated to reflect changes to requirements for notifications to Department of State Health Services for asbestos abatement and demolition activities. Section 1.36 was updated to reflect changes to requirements for spacing around fire hydrants and storage containers. Sections with references to DOE-STD-1090 were updated to reflect current version of the standard.  |

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ACRONYMS LIST

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| --- | --- |
| ACGIH | American Conference of Governmental Industrial Hygienist |
| ACM | Asbestos Containing Material |
| AFFF | Aqueous Film Forming Foam |
| AHA | Activity Hazard Analysis |
| AIHA | American Industrial Hygiene Association |
| BWP | Beryllium Work Permit |
| CA/MP | Cause Analysis/Mistake Proofing |
| CFR | Code of Federal Regulations |
| CNS | Consolidated Nuclear Security |
| DOE | Department of Energy |
| DOT | Department of Transportation |
| DSHS | Department of State Health Services |
| ECD | Environmental Compliance Department |
| EPA | Environmental Protection Agency |
| GFCI | Ground‑Fault Circuit Interrupters |
| HE | High Explosive |
| HEPA | High Efficiency Particulate Air |
| HVAC | Heating, Ventilation and Cooling |
| ISM | Integrated Safety Management |
| kV | Kilovolts (1000 volts) |
| LA | Limited Area |
| LNG | Liquid Nitrogen Gas |
| LPG | Liquid Petroleum Gas |
| LPT | Lymphocyte Proliferation Test |
| LOTO | Lockout/Tagout |
| MAA | Material Access Area |
| MSDS | Material Safety Data Sheet |
| NEC | National Electrical Code |
| NESHAP | National Emissions Standards for Hazardous Air Pollutants |
| NFPA | National Fire Protection Association |
| NIOSH | National Institute of Occupational Safety and Health |
| NNSA | National Nuclear Security Administration |
| NPO | NNSA Production Office |
| NST | National Standard Thread |
| OC | Operations Center |
| OSHA | Occupational Safety and Health Administration |
| PA | Protected Area |
| PDMLink | Product Data Management Link |
| PACM | Potential Asbestos Containing Materials  |
| PEL | Permissible Exposure Levels |
| PM | Project Manager |
| PPE | Personal Protective Equipment |
| RACM | Regulated Asbestos Containing Material |
| RPBA | Reduced Pressure Zone Backflow Prevention Assembly |
| S&IH | Safety and Industrial Hygiene |
| SPO | Security Police Officer |
| SOW | Scope of Work  |
| STR | Subcontract Technical Representative  |
| SWMU | Solid Waste Management Units |
| TDH | Texas Department of Health |
| TLV | Threshold Limit Value |
| UL | Underwriters Laboratories |
| UN | United Nations |

SECTION **01500** ‑ SAFETY AND HEALTH

1. PART 1 – GENERAL
2. The Contractor shall establish a Worker Safety and Health Program in compliance with 10 CFR 851. The Contractor’s Worker Safety and Health Program must reduce or prevent occupational injuries, illnesses, and accidental losses. The Contractor must establish procedures for investigating whether a violation of a requirement of 10 CFR 851 has occurred, for determining the nature and extent of any such violation, and for imposing an appropriate remedy.
3. The Contractor shall take all reasonable precautions in the performance of the work under this contract to protect the safety and health of employees and members of the public, to minimize danger from potential hazards to life and property, and to comply with specified safety and health regulations and requirements.
4. If an operation has an unmitigated and/or unanalyzed potential to injure personnel or damage property, employees of the Contractor or Subcontractor(s) shall stop work immediately and shall not allow work to resume until the situation has been corrected.
5. It is the Contractor’s responsibility to comply with specified regulations or requirements during the course of construction. If the Contractor fails to comply, the Contractor will be notified, in writing, of the non-compliance with the provisions of this contract and will implement controls in the form of a Corrective Action Plan. The Plan will include:
	1. Actions that will be taken by the Contractor to comply with specified regulations and requirements.
	2. The method as to how the actions will be implemented.
6. The Contractor will post the Department of Energy (DOE) designated Worker Protection Poster (10 CFR 851.20) in a conspicuous place and accessible to all Construction employees.
7. The following emergency telephone numbers are available for the Contractor’s use:

|  |  |  |  |
| --- | --- | --- | --- |
| **Emergency Service** | **Phone** | **Emergency Service** | **Phone** |
| Medical Emergency | 477-3333 | Fire | 477-3333 |
| Radiation Safety | 477-4946 | Fire (Business Only) | 477-4486 |
| Operations Center (OC) | 477-5000 | Construction Safety | 477-6212477-3566477-5810 |
| Security | 477-3934 / 477-3922 | Medical (Physician) | 573-3033 |

* 1. Safety and Health Program

The Contractor’s Safety and Health Program shall include the following elements which are to be developed using a graded approach.

1. The Contractor’s Safety and Health Plan.
2. Activity Hazard Analysis (AHA).
3. Definition of processes for establishing and utilizing competent and qualified persons.
4. Hazard Communication Program.
5. Occupational Medicine Program (as required).
	1. Safety and Health Plan

The Contractor shall submit a Project Specific Safety and Health Plan for review and approval by Consolidated Nuclear Security (CNS) Pantex prior to construction mobilization. The Contractor’s Safety and Health Plan will address how the Safety and Health Plan will be implemented for the project, and as a minimum it will provide the following:

1. Clear definition of Contractor roles and responsibilities for compliance with safety and health requirements, including implementing an accident prevention program and means for assuring supervisors, competent safety person, and workers analyze the work to define potential hazards.
2. The Contractor’s Safety and Health Plan will be the program of record for construction operations. Lower tier Subcontractors must comply with and will be held accountable to the Contractor’s Safety and Health Program. It is the Contractor’s responsibility to flow down and enforce their program requirements to lower tier Subcontractors.
3. Incorporation of safety, health, and environmental requirements as defined and referenced in this Contract.
4. Description of methods to assure that personnel have the requisite knowledge, training, required certification, experience, and skills to successfully comprehend and follow safety and health responsibilities.

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| **NOTE** |
| During the course of construction, all individuals, including CNS Pantex, Contractor employees, and Subcontractor’s employees, have the authorization to stop work because of the reasonable belief the task poses an imminent risk of death, serious physical harm, or other serious hazard to workers. The Contractor shall not discourage this right or take adverse actions against an individual who stops work for safety reasons. |

1. Description of methods to maintain employee awareness and involvement regarding safety and health requirements, including employees right and obligation to report unsafe work conditions and express safety and health related concerns without concern of reprisal.
2. Description of Contractor programs, requirements, and procedures for safely performing confined space work, fall protection, respiratory protection, Personal Protective Equipment (PPE), hazard communication, electrical, noise, forklift, machine guarding, hoisting and rigging, excavation/penetration work, cutting and grinding, welding, burning, and other work activities.
3. Description of employee disciplinary program for violations of safety and health requirements.
4. Method of conducting and documenting safety inspections (include copy of inspection form).
5. Investigation procedures for accidents, injuries, illnesses, noncompliance’s, releases, spills, and near misses. A near miss is a narrowly avoided accident or incident that has the potential for adversely affecting personal safety, the environment, or Plant equipment.
6. Means for assuring adequate housekeeping in the work area.
7. The Contractor’s Substance Abuse Program.
8. Modification of the Safety and Health Plan.
9. If a contract modification is executed and the Contractor’s Safety and Health Plan does not adequately address the scope of work in the modification, the identified operation will not commence until the Safety and Health Plan is modified and approved.
10. The Safety and Health Plan shall be modified to address the specific safety and health concerns associated with this scope of work and shall be approved by CNS Pantex Plant prior to commencement of work on this phase.
11. A copy of the Safety and Health Plan shall be maintained by the Contractor at the worksite and be available upon request by CNS Pantex Plant personnel, Contractor and Subcontractor employees, employee representatives, and other personnel with a need-to-know.
	1. Activity Hazard Analyses (AHA)
12. The Contractor shall prepare and submit an AHA, PX-4798, to address each definable feature of work and the associated potential hazards and mitigations. An AHA may be developed for each definable feature, or several features may be incorporated into a single AHA.
13. AHA will define the work activity(ies) to be executed, identify the equipment that will be needed to perform the activities, identify the associated potential hazards that could adversely affect health, safety, or environment, and define specific actions to eliminate or minimize the risks involved. The AHA shall address permit requirements, training requirements, engineering and administrative controls, and PPE requirements.
14. The Contractor will provide drawings and/or other documentation of protective measures prepared by a Professional Engineer or other qualified professional when the applicable construction activity (e.g., excavations, foundations, structural steel, fall protection systems, scaffolding, etc.) is required by Occupational Safety and Health Administration (OSHA) standards.
15. The AHA is a living document throughout the duration of the project. The AHA will identify specific safety and health requirements for identified tasks. The AHA must be modified by the Contractor and approved by CNS Pantex should additional activities need to be performed or if additional equipment is required or if emergent potential hazards are identified. An AHA revision needs only to include what is being modified and not the entire AHA that was previously approved.
16. The Contractor shall require workers to acknowledge being informed of the potential hazards and protective measures associated with assigned work activities addressed in the AHA.
17. An approved AHA submittal is not usable for work until the last page of the PX‑4798 has the required signatures. The Contractor is responsible for ensuring that the signatures are in place prior to commencing work. The approved and signed AHA will allow the Contractor to commence operations for which an AHA has been approved. No activities will commence that are not identified in the AHA.
	1. Competent and Qualified Persons

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| **NOTE** |
| “Competent and qualified persons in this section (1.4) refer to the OSHA designation, i.e., competent person for excavations.” |

1. Qualifications of competent and of qualified persons.

Per definition, the competent person shall have knowledge of the Contractor’s Safety and Health Program including the requirement to conduct Site inspections, identify safety deficiencies, initiate corrective actions, and enforce safety and health requirements for Contractor and tier Contractor personnel. As a minimum, competent person shall be designated and qualifications submitted for each of the following major areas:

* Excavation.
* Scaffolding.
* Fall protection.
* Hazardous energy.
* Confined space.
* Rigging.
1. As a minimum, the competent person designee shall have a 10-hour OSHA construction safety class or equivalent within the last three years.
2. The resume and letter of authority for each primary and any alternate competent and qualified person(s) shall be submitted to CNS Pantex prior to execution of the activity they are designated for.
3. Safety inspection logs required by OSHA that are generated by the competent persons shall be attached to the Contractors’ Daily Report.
	1. Contractor’s Hazard Communication Program
4. The Contractor shall have a Hazard Communication Program that meets the requirements of 29 CFR 1910.1200.
5. The Contractor shall assure that each Subcontractor at the Site who uses chemicals has a Hazard Communication Program that meets the requirements of 29 CFR 1910.1200.
6. Prior to commencing construction, a copy of Safety Data Sheet(s) (SDSs) shall be submitted to Project.records.man@cns.doe.gov for review.
7. The Contractor shall maintain a current copy of the Safety Data Sheet (SDS) for all chemicals associated with the construction project on file at the Contractor's field office.
8. The Contractor shall maintain a master list of all chemicals associated with the construction project, including Subcontractors, at the worksite or on file at the Contractor's field office.
9. The Contractor shall coordinate the use of any hazardous chemicals with Subcontractor Safety Group and Project Subcontract Technical Representative (STR).
10. The Contractor shall maintain exposure levels below established OSHA Permissible Exposure Levels (PEL) or American Conference of Governmental Industrial Hygienist (ACGIH) Threshold Limit Value (TLV) in any work area. The lower exposure level will be enforced.
11. If personnel in occupied areas adjacent to the construction site could be exposed to hazardous chemicals, the Contractor shall request that CNS Pantex Plant relocate those employees.
12. The Contractor shall not proceed with any operation that could expose their own employees or CNS Pantex personnel to hazardous chemicals without controls in place. Controls shall be approved by the Subcontractor Safety Group and the STR.
13. The Hazard Communication Program for the Contractor and all Subcontractors shall be maintained on the worksite and shall be available upon request by CNS Pantex Plant personnel, Contractor and Subcontractor employees, employee representatives, and other personnel with a need-to-know.
	1. Contractor Occupational Medicine

**For specific information, refer to Division I Specification 1450 (DIV-01450).**

* 1. Integrated Safety Management (ISM)
1. ISM shall be utilized to establish and maintain a systematic approach to effectively incorporate safety and health requirements into all work performed. Protection of the public, the worker, and the environment shall be integrated into the project. Safety management activities shall include five core functions:
2. Define scope of work.
3. Analyze potential hazards.
4. Develop and implement hazard controls.
5. Perform work within controls.
6. Provide feedback and continuous improvement.
7. The Contractor shall incorporate these five core safety management functions during the course of construction. The Define, Analyze, Develop, and Implement functions shall be addressed during the development of the AHA. Potential hazards controls will be confirmed when the AHA is submitted by the Contractor and approved by CNS Pantex. The Performance functions shall be implemented once work commences. The Feedback and Continuous Improvement function will be implemented during the course of construction when unforeseen circumstances arise that could inhibit the Contractor’s ability to perform a particular task. The Feedback and Continuous Improvement function may require a revision to the Contractor’s Safety and Health Plan and/or to the Contractor’s AHA.
8. Under the ISM process, the Contractor will tailor the controls to the complexity of work and associated potential hazards.
9. Hazardous zones shall be separately identified as such. This is in addition to the construction site boundary, and only essential personnel may enter the hazardous zone. Routine activities and conversations should be conducted outside the hazardous zone. The zone should be clearly marked or barricaded to identify excluded areas. These areas include but are not limited to open excavations, hazardous items, dangerous surfaces, roof lines, lifting operation zones, etc.
	1. Communication of Site Safety Requirements
10. The Contractor is required to conduct a daily “tailgate safety meeting” for all employees, including lower-tier Subcontractor employees.
11. The meeting is intended to be part of the Contractor’s normal daily work assignment process. While the meeting may cover a variety of safety matters, its focus should be on work activities to be conducted that day, the potential hazards associated with those activities, and measures to eliminate, isolate, or minimize the potential hazards.
12. Prior to start of each job task, the Contractor shall brief workers regarding any potential hazards identified in the AHA by using the applicable AHA or related section of the AHA that contains those potential hazards. The AHA is a resource for discussion, as it should identify potential hazards and mitigation measures. Permits provide an additional resource of information to be reviewed in tailgate safety meetings.
13. The Superintendent and/or the Competent Safety Person normally leads the tailgate safety meeting, but may delegate authority to subordinate supervisors or foremen who have expertise in the work to be performed by each group.
14. Contractors will relay any provided safety information related to incidents that have occurred at the Pantex Site, safety equipment recalls, or general safety and health reminders to their Site employees during the daily work review meeting.
15. Each tailgate safety meeting will be documented by recording the potential hazards identified, mitigation measures, and attendance. Records shall be provided to the STR upon request.
	1. Subcontractor Safety Council Meetings
16. Contractors must attend the Subcontractor Safety Council meetings hosted by CNS Pantex. Tier Subcontractors may attend, but are not required to do so. The Subcontractor Safety Council will provide Contractor personnel the ability to identify areas for improvement related to CNS Pantex.
17. The Subcontractor Safety Council meets quarterly and one member of the Contractor’s Management Team will attend.
	1. Personal Protective Equipment (PPE)
18. Foot protection is mandatory for all Contractor personnel working at the Pantex Site. Foot protection shall meet the requirements as specified in 29 CFR 1910.136. The Contractor can request that foot protection be waived if foot protection could damage equipment being installed and there are no potential hazards to the workers. The Contractor shall submit a written request to CNS Pantex stating why foot protection is not needed, but shall not exempt employees from using foot protection without CNS Pantex Plant approval. Non-metallic footwear will enhance progress through security inspections.
19. Eye protection is mandatory for all Contractor personnel working at the Pantex Site. Eye protection must meet the requirements as specified in 29 CFR 1910.133. Additional eye/face protection may be required based upon the operations to be performed. The Contractor shall base all eye/face protection requirements on the provisions outlined in 29 CFR 1926.102.
20. Contractor employees shall wear appropriate hearing protection based upon hearing protection requirements identified in 29 CFR 1910.95.
21. Contractor employees shall wear hand protection while performing operations that could cause potential hazards to the hands from skin absorption of harmful substances, severe cuts or laceration, severe abrasions, punctures, chemical burns, thermal burns and harmful temperature extremes, or electrical shocks. The Contractor shall be responsible for evaluating the activities to be performed and shall specify the type of hand protection that will be used. Cut-resistant gloves will be evaluated based on work to be performed and applicable ANSI/EN388 ratings.
22. “Level 0” insulated voltage rated rubber gloves are required to be worn by workers when drilling or cutting concrete walls, floors, concrete encased objects, cinder block, or brick anytime facility electrical is present (energized or nonenergized, anywhere within the facility). This requirement covers use of all types of drilling and cutting equipment. (Electrical, water, gas, air, or hand-powered).
23. Head protection is mandatory for all Contractor personnel working at the Pantex Site. Head protection must meet the requirements as specified in 29 CFR 1926.100. “Cowboy Hardhats,” metal hardhats, and bump hats are not permitted for use at the Pantex Site.
24. Respiratory protection shall be required if employees could be exposed to hazardous chemicals or substances that exceed allowable TLVs according to ACGIH or PEL according to OSHA. The most stringent ACGIH or OSHA shall be enforced while selecting respiratory protection.
25. If respiratory protection is required, the Contractor shall submit a respiratory protection plan that complies with the provisions specified in 29 CFR 1910.134. In addition, any employee required to wear respiratory protection shall have a current annual physical or medical questionnaire, the respiratory protection to be used, documentation of a fit test, and documented evidence of respiratory protection training.
26. The Contractor shall include any operations requiring respiratory protection on the Contractor’s AHA. The AHA shall address barricading requirements, ventilation requirements, and precautions to be taken to prevent exposure to other Site personnel.
27. The Contractor shall require employees to wear appropriate electrical protective equipment when employees are working in areas where they may be exposed to potential electrical hazards. The electrical protective equipment shall comply with 29 CFR 1910.137 and the PPE requirements of NFPA 70E as addressed in 10 CFR 851.23 (a) (14).
28. It will be the responsibility of the Contractor to assure that personnel are physically capable of wearing PPE. Physically capable may include fit tests, physicals, and medical questionnaires. The Contractor shall provide documentation as required by the OSHA regulations to assure personnel are physically capable of wearing prescribed PPE. Actual medical documentation will be maintained by the Contractor and may be audited by CNS Pantex.
	1. Site Safety and Health Inspections
29. CNS Pantex personnel will inspect project sites on a periodic basis. The Contractor appointed Competent Safety Person will accompany CNS with safety inspections. Inspections will be based upon the requirements identified in the Division I Specifications, 29 CFR 1910, and 29 CFR 1926.
30. The Contractor shall correct all CNS Pantex documented deficiencies deemed to be detrimental to the safety and health of Site workers during the inspection. If the deficiencies are deemed serious to personnel safety and cannot be corrected during the inspection, the operation involving the deficiencies will be paused during the inspection. Deficiencies not corrected during the inspection, and not detrimental to the safety and health of Site workers, will be placed in a tracking system until the deficiency has been corrected.
31. The Contractor shall conduct daily safety and health inspections at the jobsite and promptly correct all deficiencies. Safety and health inspections performed by the Contractor shall be documented and shall be maintained at the jobsite.
	1. Preparatory and Progress Meetings
32. The Contractor shall participate in periodic meetings with CNS Pantex to address construction safety issues experienced at Pantex.
33. Preparatory and progress meetings will be held on an as needed basis in correlation with the different phases of the construction project. As a minimum, one member of the Contractor’s Management Team and the designated Safety Person will attend. Contractor may elect to invite the Contractor’s tier Subcontractor Representatives to this meeting.
	1. Construction Safety Incidents
34. If a construction safety incident occurs, the Contractor shall first take action to obtain aid for any injured employee by notifying CNS Pantex at (806) 477-3333 and then preserve the incident scene. The Contractor will preserve the conditions and evidence at the incident scene until the Investigation Team arrives on site and the investigation is conducted. The Contractor may be required to cease all or some operations until:
35. A joint CNS Pantex and Contractor safety investigation has been completed.
36. A critique and Cause Analysis/Mistake Proofing (CA/MP) Meeting is completed.
37. A Corrective Action Plan has been developed and approved.
38. Corrective actions have been implemented.
39. Occurrence Reports
40. The Contractor shall report:

##### Accidents or incidents that result in injury.

* 1. Accidents or incidents that cause property damage.
	2. Near misses that could have resulted in injury or damage to property.
	3. Any release of a hazardous substance, regulated pollutant, fuel, or oil.
	4. Conditions that could result in the degradation of personnel safety.
	5. Condition that could result in the degradation of security.
	6. Any use or suspected use of illegal drugs or alcohol.
	7. Radiological exposure.
	8. Any unplanned contact with energized electrical circuits or other energy systems such as air, gas, or steam.
1. All occurrences shall be reported immediately to:
2. CNS Pantex Plant OC at 477-5000.
3. CNS Pantex STR.
4. DOE Form 5484.3 Modified (Exhibit 13) shall be submitted to the Safety Industrial Health Department within 7 days from the date of the injury.
	1. Monthly Frequency Reporting

Work hours and injury reports DOE Form 5484.4 Modified (Exhibit 11) shall be submitted on the fifth of each month for the prior month. The Contractor shall include the total number of hours worked by all construction personnel, including sub-tier Subcontractor personnel during the reporting period.

* 1. Injuries and Medical Emergencies
1. The Contractor shall notify the CNS Pantex Plant Fire Department (806)-477-3333 in the event of a medical emergency. Emergency medical treatment is required when:
2. An employee loses consciousness or has pain or numbness in any portion of the body.
3. An employee suffers cuts or abrasions that may require suturing by a physician.
4. An employee has a bone that may be fractured or dislocated.
5. An employee suffers second or third degree burns, including electrical, thermal, and chemical burns, to any portion of the body.
6. An employee experiences any chest pain or, difficulty in breathing.
7. An employee suffers allergic reactions to food products or insect stings.
8. An employee is bitten by a snake, scorpion, etc., or any animal.
9. The Contractor shall manage injuries and medical emergencies to prevent or reduce further injury to an ill or incapacitated employee until CNS Pantex Fire Department personnel arrive. The Contractor is required to maintain a first-aid kit at the jobsite that complies with the provisions addressed in 29 CFR 1926.50.
10. The Contractor shall provide first-aid treatment at the project site.
11. Ambulance service can be obtained by calling (806) 477-3333 or by asking a Security Police Officer (SPO) to summon an ambulance. Ambulance service and transportation to a medical facility or emergency doctor is available and provided at no cost to the Contractor. State Certified Paramedics and Emergency Medical Technicians staff CNS Pantex Plant ambulances.
12. Patients requiring medical attention may first be taken to the CNS Pantex Plant Occupational Health Services for stabilization prior to transportation to an emergency room or doctor.
	1. Occupational Safety or Health Complaints

Contractor and Subcontractor employees may notify CNS Pantex if they have an occupational safety or health complaint. CNS Pantex will investigate the complaint and will provide feedback to the employee. The employee’s name will not be disclosed to the Contractor.

* 1. Flammable Gas or Flammable and Combustible Liquid Transporting
1. Transportation of Hazard Division 2.1 Flammable Gas or Class 3 Flammable and Combustible Liquid on the Pantex Site, in quantities that are required to be placarded by 49 CFR 172.504 shall be coordinated 48-hours in advance with the CNS Pantex Divisional Logistics Coordinator. The Contractor shall provide the amount and/or capacity of the material to be transported, the name of the company transporting the material, the date and time of the delivery, the destination of the delivery, the driver’s name (if no badge), the material type, the placarded status, and route. The Contractor is responsible for acquiring an authorized time and entrance point for the delivery from the CNS Pantex Divisional Logistics Coordinator. The Contractor shall abide by any escort requirements for such loads entering the Limited Area (LA), PA, or Material Access Area (MAA). The Contractor is responsible for coordinating any notifications to the OC with both the STR and CNS Pantex Divisional Logistics Coordinator.
2. Hazard Division 2.1 Flammable Gases are identified in 49 CFR 172.101, described in 49 CFR 173.115, and includes (but not limited to) propane, acetylene, compressed natural gas, and liquefied natural gas. A placarded quantity of these items is any amount where the weight of the container and contents combined is 1,001 lb. or more.
3. Hazard Class 3, Flammable and Combustible Liquids are identified in 49 CFR 172.101, described in 49 CFR 173.120, and include (but not limited to) gasoline, diesel fuel, fuel oil, or road asphalt. A placarded quantity, as defined by CNS Pantex Plant, is any container that exceeds 110-gallons in quantity regardless of the content amount inside the container or any amount where the weight of the container and contents combined is 1,001 lb. or more.
4. Transportation or staging of flammable or combustible liquids in quantities greater than 12 gallons, at any one location in the Zone 12 MAA ramps, corridors and loading docks is prohibited without the advanced notification and authorization from the OC. The Contractor is responsible for acquiring and coordinating the advanced notification with the STR.
5. The Contractor shall coordinate in advance the use of compressed gas cylinders at Pantex with Construction Safety or the assigned STR. [CNS Pantex Reference 06‑0382-A]
6. Compressed gas cylinders rated greater than 3600 psi will not be allowed on the Pantex Plant. [CNS Pantex Reference 06-0382-A]
7. Compressed gas cylinders equipped with valve protection caps shall have caps in place at all times. Caps will be hand tight, except when cylinders are in use or connected for use. Cylinders not designed to have a valve cap must be in a container to protect the valve assembly from damage during transport and use or be designed with valve protection. [CNS Pantex Reference 06-0382-A]
8. Compressed gas cylinders shall be mechanically restrained at all times, except when being changed out, loading or unloading. Compressed gas cylinders shall not be changed out or unrestrained in Zone 4 magazines and Zone 12 MAA ramps, corridors, loading docks or facilities without the permission of the STR. The Contractor is responsible for acquiring and coordinating the advanced notification with the STR. [CNS Pantex Reference 06-0382-A]
9. Compressed gas cylinders brought into Zone 4 magazines or Zone 12 MAA ramps, corridors, loading docks, or facilities shall be restrained in a rack or cart, contained in a frame or container. For cylinders not designed for valve protection caps, the container frame shall extend past the valve assembly if the valve is not protected with a valve protection barrier. [CNS Pantex Reference 06-0382-A]
	1. Electrical
10. EXTENSION CORDS
11. All general use extension cords shall be of a 3-wire type rated for hard or extra hard use. (Reference the current addition of the National Electrical Code (NEC) for size and type of hard or extra-hard use extension cords.)
12. The Contractor shall take necessary precautions to protect extension cords from vehicle or foot traffic.
13. Extension cords shall not be suspended with bare wire.
14. Extension cords routed through doorways or windows shall be protected by a rigid sleeve, conduit or similar device secured to prevent the sleeve being dislodged.
15. Extension cords routed through metal structures shall be protected with a non-conductive barrier.
16. Extension cords shall be protected from sharp edges.
17. Extension cords shall be inspected prior to use for frays, cuts, and ground-prongs. All damaged extension cords shall be immediately removed from service.
18. PORTABLE ELECTRIC DEVICES
19. All portable electric devices, such as saws, drills, compressors, etc., shall be equipped with 3-prong plugs or shall be double insulated.
20. Electrically powered equipment shall be inspected prior to use as shall the battery for battery powered equipment. Damaged or defective equipment shall be immediately removed from service.
21. All electrically powered equipment shall be disconnected at the conclusion of the workday.
22. All 120‑volt, single‑phase, 15‑ and 20‑ampere receptacle outlets on construction sites shall have Type A Ground‑Fault Circuit Interrupters (GFCI) for personnel protection. The “Assured Equipment Grounding Conductor Program” is not an acceptable alternative for the use of GFCI protective devices.
23. Contractors utilizing permanent Plant receptacles for construction power shall not rely on a permanently installed GFCI device for protection and must utilize a portable GFCI device.
24. Drills/grinders, when equipped, will not have handles removed. It is further recommended that cord connected drills and grinders be equipped with torque clutches.
25. TEMPORARY WIRING
26. All temporary wiring and fixtures shall be installed in a manner that protects employees from energized electrical parts.
27. All temporary wiring shall be installed by a trained and qualified electrician and the temporary wiring shall meet the provisions of 29 CFR 1926, Subpart K.
28. Temporary wiring shall be removed prior to project turnover.
29. Temporary wiring may be provided to jobsite trailers provided the wiring is installed in accordance with the latest version of the NEC and the temporary wiring is protected from Site operations.
30. Temporary wiring shall not be used for any office trailers located in the Zone 10 Contractor Lay-Down Area.
31. ELECTRICAL CLOSE PROXIMITY WORK
32. The following is a partial list of activities that CNS Pantex defines as electrical close proximity work:
33. Trouble shooting (this does not include lifting of energized leads).
34. Pre-operational testing (this does not include lifting of energized leads).
35. By-passing circuits during system testing.
36. Tracing circuits (this does not include lifting of energized leads).
37. Infrared measuring.
38. Voltage measurements (this does not include lifting of energized leads).
39. Measuring current (if using inline current meters, the circuit will be de-energized prior to placing or removing the meter connections).
40. Contractor personnel may not work within close proximity of exposed energized electrical parts unless:
41. Work to be performed within close proximity of exposed energized electrical parts is approved by CNS Pantex. The Contractor shall request approval for PX-5253 (Exhibit 9), before close proximity work is initiated. The request to work within close proximity of exposed energized electrical parts shall meet the provisions listed in NFPA 70E as addressed in 10 CFR 851, Subpart C, Section 23 (a) (14). PPE will also be selected based upon current NFPA 70E requirements as addressed in 10 CFR 851, Subpart C, Section 23 (a) (14).
42. The Contractor has a procedure approved by CNS Pantex Plant that specifically addresses work within close proximity of exposed energized electrical parts and the procedure is consistent with the provisions identified in 29 CFR 1910.333. The procedure shall address PPE (as required by NFPA 70E), insulated barriers, insulated tools, and precautions to protect non-electrical personnel from energized circuits.
43. OVERHEAD OBSTRUCTIONS
44. The operations of cranes, equipment with masts, and equipment with booms around electrical lines shall be performed in accordance with OSHA requirements of 29 CFR 1926.1400, “Subpart CC – Cranes and Derricks in Construction.”
45. All overhead lines shall be considered energized.
46. All cranes, equipment with masts, and equipment with booms must maintain a minimum clearance of 10 feet between the crane, hoist or boom and an energized line of 15 kV or less. Any energized overhead power lines greater than 15 kV will require a minimum clearance of 15 feet.
47. The Contractor shall be responsible for inspecting the work area and determining if energized lines are present and if construction equipment can be operated with the minimal distance requirement.
48. If such equipment must operate within 10 feet of an energized line 15 kV or less or within 15 feet of an energized power line 15 kV or greater, the Contractor shall obtain the appropriate Lockout/Tagouts (LOTOs).
49. When moving equipment underneath overhead power lines, the Contractor shall maintain a minimum clearance of 6 feet for energized overhead power lines 15 kV or less. For any energized overhead power lines greater than 15 kV the Contractor will maintain a minimum a minimum clearance of 10 feet. The Contractor shall measure the height of the equipment to be moved and estimate the height of the overhead power lines.
50. If the Contractor cannot maintain minimum clearances referenced in item 6 above, an alternate route or a LOTO of the overhead power lines shall be obtained prior to moving the equipment.
51. The Contractor shall provide spotter(s) to assist operators when overhead clearances could be a concern.
	1. Utility Shutdowns and Lockout/Tagout (LOTO)
		1. LOTO is required for all energy sources directly and indirectly involved with the project. All utility system (electrical, high pressure fire loop, domestic water, sewer, steam, natural gas, compressed air) shutdowns will be performed in accordance with the CNS Pantex LOTO procedures. The Contractor is responsible for coordinating LOTO operations with the STR. The CNS Pantex LOTO Program will be the program of record and shall be included in the Contractor’s Safety and Health Plan.
		2. The Contractor is responsible for having any employee involved with or downstream from a LOTO trained and certified in “CURRENT” CNS Pantex LOTO procedures. The Contractor shall coordinate with the Pantex Logistics Coordinator for current class offerings.
		3. The Contractor shall initiate and assist in the completion of the PX-665, provide a diagram or drawing of area to denote the scope of LOTO and boundaries at least five working days (unless specified otherwise) in advance of the date any utility outage is required.
		4. Only Contractor employee’s that have been certified under CNS Pantex LOTO procedures shall be allowed to work within the boundaries or downstream of the LOTO. Each Contractor employee shall have an individual green lock on the lock box prior to work in accordance with CNS Pantex LOTO procedures.
		5. Contractor personnel are NOT AUTHORIZED to shutdown or start, open or close, energize, or de-energize, any utility system (electrical, high pressure fire loop, domestic water, sewer, steam, natural gas, compressed air) for any reason other than that of imminent danger.
		6. A “Hot Tap” is a method of connecting to an existing utility without the requirement of a utility outage. (Electrical requires an outage regardless.) If a Contractor is permitted to perform a Hot Tap, the following shall be performed:
			1. Hot Tap procedures shall be developed for the utility to be worked without an outage and will be approved by CNS Pantex.
			2. A PX-665 will be submitted and will identify the required isolation points once the hot tap has been authorized.
			3. A “Hot Tap” must be witnessed by the assigned CNS STR and the coupon generated by the tap shall be rendered to the STR and provided to CNS Utilities.
			4. Upon completion of the Hot Tap, CNS Maintenance will apply a LOTO at the identified isolation points and render the Hot Tap inoperable until the actual tie-in is complete.
			5. If the Contractor needs to exercise installed equipment, such activities must be approved by the STR and the system owner.
	2. Point of Use Utilities
52. Contractor personnel are allowed to manipulate “Point of Use” devices. Examples of these “Point of Use” devices will include: light switches, unit power and operating controls, domestic fire hydrants, cord and plug assemblies and other controls normally intended to be used by a consumer, not an installer or service person. Point of Use controls are readily accessible and may require an operating tool. Control manipulation by Contractors or Subcontractors may not alter the flow configuration of a utility system.
	1. Ladders, Scaffolds, and Aerial Lifts
53. If ladders are used on the project site, they shall conform to the provision of 29 CFR 1926, Subpart X.
54. The Contractor shall provide details as to how ladder inspections will be performed, how defective ladders will be tagged from service, and how personnel will be trained in regards to ladder safety. This information shall be included in the Contractor’s Safety and Health Plan.
55. If scaffolds are used on the project site, they shall conform to 29 CFR 1926, Subpart L.
56. The Contractor shall assure that scaffolds are assembled under the supervision of a competent person. The Contractor shall provide the names of the competent personnel in regards to scaffolding.
57. The Contractor shall address scaffold safety requirements in the Safety and Health Plan. Scaffolding requirements will address applicable OSHA requirements associated with the type of scaffolding being used.
58. If aerial lifts are used on the project site, they shall conform to 29 CFR 1926, Subpart L.
59. Personnel operating aerial lifts shall be trained as to the safe operation of the lift.
60. The Contractor shall address aerial lift safety in the Contractor’s Safety and Health Plan. Aerial lift requirements shall include training, inspection, and PPE.
61. All aerial lifts shall have current preventive maintenance records available for inspection by CNS Pantex.
62. Electric lifts shall be charged only in locations specified by CNS Pantex.
63. The Contractor shall identify protective measures to be taken to protect personnel from potential dropped objects while performing elevated work. This can include tethered tools, barricading, establishing a drop zone, use of toe boards, use of wire/synthetic mesh around handrails, etc.
	1. Penetration/Excavation Permits
		1. Subsurface penetrations below site finished grade or through walls, floors, ceiling and roofs of structures could contain unidentified utilities and electrical in addition to known utilities. Therefore, for proposed penetrations and excavations involving drilling, boring, cutting, heating, and digging require a permit as detailed in CNS Pantex WI 02.06.03.01.05 and accompanying TABLE-0117. No penetrations/excavations will be made prior to evaluation and approval by CNS Pantex. The CNS Pantex Excavation and Penetration Program will be the program of record and will be included in the Contractors Safety and Health Plans.
	2. The Contractor (Requestor) shall assist the STR in completing the PX‑2872A (Exhibit 4).
	3. The Contractor shall provide a map or sketch of area to be worked and shall mark the intended penetrations/excavations before applying for a permit.
	4. A copy of the approved and signed permit used for the activity shall be submitted by the Contractor to CNS Pantex for the project records. The submittal coversheet shall state that it is for a record copy and shall be submitted within two working days of receiving it. Any approved and signed permit updates, revisions or addendums shall also be submitted within two working days after receipt and the submittal coversheet be marked appropriately for a record copy.
		1. The Contractor shall verify the markings for all utilities known to exist within the permitted area prior to beginning or continuing a penetration or excavation.
64. There may be utility lines in the area that are not known to CNS Pantex.
65. CNS Pantex makes no representation, guarantee, or warranty concerning the accuracy of these markings.
66. The Contractor shall consider the uncertainties associated with these markings and perform the penetration with due caution.
67. The Contractor is responsible for mitigating potential hazards associated with excavating in the proximity of known and identified utilities. Based on site conditions and soils, mechanical digging, hand digging, and/or hydro vacuum digging may be appropriate to avoid potential hazards.
	* 1. The Contractor shall update the as-built drawings or sketches as necessary to identify locations and interferences, and will communicate this information to the employees performing the penetration known to all equipment operators before beginning a penetration.
	1. Procedures for Damaged or Cut Utilities
68. If a utility is accidentally damaged, the Contractor shall evacuate all personnel to a safe distance. No one will be permitted to work on a damaged line or pipe until it is proven safe.
69. The Contractor shall notify the OC at (806) 477-5000 and the STR. The Contractor is responsible for filling out required CNS reports concerning the incident.
70. The Contractor shall not repair or continue work until CNS Pantex has released the area and proper LOTO or controls are in place.
71. Prior to covering the utility, the Contractor shall notify the CNS Pantex STR that repairs are complete. The Contractor shall not cover the utility until the CNS Pantex STR has verified and approved the repair, inclusive of the placement of any required utility marking tape.
	1. Penetrations
72. The Contractor shall address penetration safety requirements in the AHA.
73. Utilize a mechanical drill stop to prevent damage to concealed metallic items. A Lorien Instruments Protek SRS or equal shall be used to provide worker safety and prevent damage to metallic items by terminating power to the drill motor.
74. Provide documented training that details the operation and safety features of this equipment.
75. Prior to daily use, test the operation of the equipment to assure that the equipment will terminate power to the drill motor upon contact with grounded metal.
76. The Contractor shall follow all control requirements stated in the permit for identified utilities prior to work.
	1. Excavations
77. The Contractor shall comply with the excavation safety requirements in 29 CFR 1926, Subpart P.
78. The Contractor shall address excavation safety requirements in the Contractor’s Safety and Health Plan. Excavation safety requirements shall include competent person inspections, techniques for classifying soil, excavation permits, locating, and protection of underground utilities, barricading, access/egress, maintaining spoil material, benching/shoring, and traffic control.
79. There are contaminated soil areas at Pantex, classified as Solid Waste Management Units (SWMUs), as defined by CNS Pantex Plant. These locations have known soil contaminants and require special permission from CNS Pantex Plant prior to excavating or soil penetration. CNS Pantex Plant must submit an interference notification to the State of Texas and receive approval prior to performing any excavation work in a contaminated soil area. The interference notification will identify the level of protection and training needed by the Contractor prior to performing excavation activities. If it is determined that 40-hour hazardous waste training is needed, the Contractor shall submit a Safety and Health Plan that complies with the provisions outlined in 29 CFR 1910.120 for environmental work or 29 CFR 1926.65 for construction work.  No excavation or penetration work, hand or mechanical, shall be performed in a contaminated soil area without issuance of an approved SWMU Interference Notification from CNS Pantex Plant.
80. If suspected archeological resources (e.g., bones, ceramic vessel fragments, stone artifacts, areas of charcoal or red-stained earth) are uncovered during excavation, the Contractor shall stop work related to the excavation immediately and contact the STR.
81. The Contractor shall document the exact location and depth of all utility lines exposed during the excavation.
82. The Contractor shall maintain all physical utility markings until the excavation is complete.
83. The Contractor shall update as-built drawings to show the exact location and depth of new or modified utilities.
84. A competent person designated by the Contractor shall inspect all excavations which require personnel entry.
85. All open excavations shall be barricaded when unattended.
86. Any open excavation within six feet of roadway shall be barricaded with flashing yellow lights.
87. Any open excavation over personnel walkways shall be covered with a physical barrier and equipped with standard railing.
88. If the Contractor encounters evidence of contamination during excavation, the Contractor shall:
	1. Stop all work in or near the excavation.
	2. Notify the OC or STR.
	3. Work in or near the excavation shall not resume until authorized by the STR.
89. The Contractor shall follow all control requirements stated in the permit for identified utilities prior to work.
90. Hydro-Vac Excavating is the primary safe and acceptable means to find underground utilities. The following safety precautions shall be followed while using a Hydro-Vac:
91. Contractor shall perform a 360-degree walk-around before moving the unit. A spotter shall be utilized for backing and maneuvering in tight areas.
92. Contractor shall assure personnel in the area maintain a safe distance from the equipment when in operation to avoid flying debris.
93. The Contractor shall barricade excavations while unattended and barricading will be the responsibility of the Contractor until the excavations are backfilled.
94. Ensure all guards are in place.
95. In addition to mandatory PPE, personnel operating the Hydro-Vac shall wear a face shield over safety glasses and protective clothing such as a rain suit or equivalent, and protective gloves suitable to the area.
96. If the equipment generates excessive noise levels, hearing protection shall be required.
97. Dump locations shall be coordinated by the STR and the SWMU Coordinator for approval. This is to assure SWMU soils are properly maintained.
98. The Contractor shall coordinate with the STR and the Fire Department for approval prior to connecting to any CNS Plant fire hydrants.
	1. Vehicles
		1. All vehicles entering CNS Pantex Plant are subject to a safety inspection. Brakes, lights, glass, fuel systems, electrical systems, and exhaust systems shall be in good condition. Vehicles that leak fluids will be taken off-site. Other vehicles or equipment that has the potential for fluid spills/leaks will have a spill kit available to mediate the spill. The spill kit shall contain a 10x10 sheet of plastic, a shovel, and a container to catch fluid or to place cleaned up soil.
		2. All Contractor personnel shall obey posted speed limit signs, stop signs, or applicable traffic signs whether in their personnel vehicle or a Contractor-owned vehicle. Drivers shall reduce speeds as necessary for the safe operation of vehicles during inclement weather or poor road conditions.
		3. All personnel shall wear seat belts while operating or riding in a vehicle on the Pantex site. Seat belts are mandatory on the Pantex site.
		4. The number of passengers in a vehicle shall not exceed the number the vehicle was designated to transport.
		5. Riding in the back of a truck is prohibited.
		6. Getting on or off vehicles while they are in motion is prohibited.
		7. Vehicles shall stop and yield the right of way when meeting a vehicle displaying flashing lights. Drivers shall not proceed until the vehicle has passed their location. Passing these vehicles is prohibited.
		8. Equipment or vehicles that may have caused or been a contributing factor in an accident shall not be moved until released by CNS Pantex Plant. Equipment or vehicles may be moved to prevent further injury to an accident victim or to allow access to an accident victim.
		9. The Contractor shall use Spotters/Flaggers when maneuvering a vehicle in an area with obstructed views, heavy obstacles, narrow passageways or high congestion.
	2. Equipment
		1. The Contractors shall maintain comprehensive records documenting all structural changes or corrected structural damage for oncoming drilling rigs. These records shall be kept up to date and made available to the assigned CNS Pantex STR for inspection upon request. The records shall also document that qualified personnel, as appropriate, completed modifications to the drilling rig (e.g., use of a certified welder).
		2. The Contractor shall consider the height, width, weight, and turning radius of any equipment or deliveries brought onto the Pantex Site. The Contractor shall allow enough clearance to prevent damage to Plant buildings, utilities, fences or other structures. The Contractor shall obtain approval, 24-hours in advance, from the Construction Management Logistics Coordinator prior to bringing oversize vehicles or overweight vehicles onto CNS Pantex Plant. Oversized vehicles or overweight vehicles are any vehicles that exceed 13 feet 8 inches in height, exceed 8 feet 6 inches in width, vehicles (including transport and load) that exceed 80,000-pounds or a tractor/trailer that exceeds 53 feet in length. Information is needed to determine appropriate access/egress points.
		3. The Contractor shall consider locations where heavy equipment will be used and the interaction of such equipment with site personnel, i.e., Moving Equipment Personnel Interface (MEPI). If moving equipment and personnel can interface, the Contractor will develop a program explaining how personnel will be protected from moving equipment. Such a program will address safety features, PPE, communication, etc.
		4. Contractors typically utilize utility trailers for transporting small materials and equipment to and from the Pantex Plant. Utility trailers, per the Texas Transportation Code Chapter 547, states that trailers having a gross weight of 4500-pounds or more (this includes trailer and content), must be equipped with trailer brakes. Contractors are to verify the gross weight of trailers prior to use at Pantex. Also, trailers will be equipped with safety chains and the use of chains will be strictly enforced.
		5. It is the responsibility of the Contractor and associated sub-tier Contractors to protect Plant buildings and structures. Therefore, the Contractor will be required to assign a Spotter/Flagger to assist vehicle operators while passing through overhead ramp doors. The Spotter will be responsible for verifying ramp doors are fully raised and to assure passing equipment have sufficient clearance in regards to height and width.
		6. Equipment shall be located so that exhausts discharge away from combustible materials, air intakes, or building.
		7. Service areas for equipment shall not be located within structures under construction, alteration, or demolition.
	3. Loads of 254,300 Pounds or Greater
99. Loads in excess of 254,300 pounds gross vehicle weight will not be allowed within the LA, PA, or MAA without specific authorization from CNS Pantex.
	1. Fall Protection
100. The Contractor shall establish a fall protection and prevention program that complies with the fall protection requirements in 29 CFR 1926, Subpart M, for the protection of all employees exposed to fall potential hazards. The fall protection provisions outlined in 29 CFR 1926, Subpart R, are not permissible at Pantex Plant. The Program shall include company policy: identify responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection storage, care and maintenance of fall protection equipment, and rescue and evacuation procedures.

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| **NOTE** |
| The Contractor shall maintain a copy of the Fall Protection Plan at the project site. A Fall Protection Plan will not be required when using equipment that protects personnel from a fall such as a guard rail system or equipment that already requires the use of fall protection such as an aerial lift. |

1. For work locations where fall protection anchor points are available, the Contractor shall verify availability for use with CNS Pantex and address the use of such points in the site specific AHA. For work locations where fall protection anchor points are not available, the Contractor shall submit a Fall Protection Plan for Construction Contractor Roofing/Elevated Work Activities (PX-5151) prior to performing any roofing/elevated work operations at Pantex. The Fall Protection Plan shall include fall potential hazards, locations (i.e., drawings), fall protection methods, overhead protection methods, equipment assembly/disassembly, maintenance and inspection, injured worker removal/rescue, employee training, and designated fall protection competent person. The Fall Protection Plan shall be approved by CNS Pantex prior to performing any roofing/elevated work operations.
2. A copy of the approved and signed Fall Protection Plan (PX-5151) used for the activity shall be submitted by the Contractor to CNS Pantex for the project records. The submittal coversheet shall state that it is for a record copy and shall be submitted within two working says completing it. Any approved and signed Fall Protection Plan (PX-5151) updates, revisions or addendums shall also be submitted within two working days after receipt and the submittal coversheet be marked appropriately for a record copy.
3. Fall Protection for Roofing Work.
	1. Low-slope roofs:

##### For work within 6 feet of an edge, on low-slope roofs, personnel shall be protected from falling by use of personal fall arrests systems, fall restraint system, or guardrails. A safety monitoring system is not adequate fall protection and is not authorized.

##### For work greater than 6 feet from an edge, warning lines shall be erected and installed in accordance with 29 CFR 1910.500.

* 1. Steep-sloped roofs:
	2. Work on steep-sloped roofs requires a personal fall arrest system.
	3. Anchorages to be used for the attachment of personal fall arrest systems shall be certified by a qualified person for fall protection. Horizontal lifelines shall be designed, installed and used under the supervision of a qualified person.
1. Personal Fall Arrest Equipment.
	1. Personal fall arrest equipment, systems, subsystems, and components shall meet 29 CFR 1926.502. Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. Harnesses shall have a fall arrest attachment affixed to the body support (usually the Dorsal D-ring) and specifically designated for attachment to the rest of the system. The harness shall have side D-rings if used for fall restraint or work positioning and shall have a front D-ring if used for ladder climbing. Only locking snap hooks and carabineers shall be used. Webbing, straps, and ropes shall be made of synthetic fiber. The maximum free fall distance when using fall arrest equipment shall not exceed 1.8m (six feet). The total fall distance and any swinging of the worker (pendulum-like motion) that can occur during a fall shall always be taken into consideration.
	2. The Contractor shall designate a competent person to assure that applicable fall protection requirements are enforced.
	3. For aerial lifts, fall protection shall be worn and will consist of a full body harness and self-retracting life line.
	4. Operations Involving the Use of Cranes and Non-Crane Equipment
2. All operations involving the use of cranes and non-crane types of equipment shall be performed in accordance with OSHA requirements of 29 CFR 1926.1400 and DOE-STD-1090. All operations must be evaluated by CNS Pantex to assure the safety of site workers in addition to Plant facilities and material routes. The Contractor shall verify with and assist the STR with the development of any permits necessary for these type operations. Advanced authorization to conduct crane and non-crane type activities will be granted by CNS Pantex based upon the location where such operations are to take place. The CNS OC will authorize crane and non-crane (equipment such as bucket trucks, backhoes, excavators, loaders, aerial lifts, scissor lift trucks, forklifts, etc.), which may have the potential to impact CNS buildings, ramps, corridors, loading docks, or equipment within Zone 11, Zone 12 South, Zone 12 MAA, Zone 4, east and west gate roadways, and weapon material movement routes connecting the identified locations (i.e., paved roadways). For clarification, crane operations and non-crane type equipment will be defined as follows:
3. Cranes will be considered equipment that has booms, whether lattice or hydraulic, that could have rotating platforms, and are used to raise and lower material. This will include forklifts that perform below-the-tine lifting. All crane activities require a lift plan.
4. Non-crane type equipment will be considered equipment that could have booms, rotating platforms, platform lifts, etc., that have the capability of being raised perpendicular to, adjacent to, or over occupied buildings, ramps, corridors loading docks, or equipment where fall down would be a concern.
5. For crane operations in the specified locations, the CNS Pantex OC will require sufficient information from a PX-4782 for review BEFORE granting authorization for the lifting activity. The Lift Plan will be completed and will include the controls necessary, including barricades to the affected area, to prevent personnel or weapon materials from being impacted during hoisting and rigging operations. Locations outside the specified parameters still require a lift plan and the lift plan will need to be submitted to the OC for authorization.
6. For non-crane type operations (such as aerial lift, scissor lift, bucket truck, pole cat, extendable forklift, backhoe, trackhoe, and front end loader) in the specified locations the CNS Pantex OC will require a PX-5668 for CNS Subcontractor operations for review BEFORE granting authorization. The PX-5668 will be completed and will address the controls necessary, to include barricading of affected areas, to prevent personnel or materials from being impacted while using such equipment within fall down distance of potential impact locations. Use and inspection of rigging accessories and slings must comply with DOE-STD-1090.
7. The Contractor shall verify with the STR that advanced notification to the CNS Pantex OC for authorization of crane and non-crane operations has been made. The Contractor shall verify that proper barricades are erected before such operations begin.
	1. If the OC denies the request to perform crane or non-crane operations, the activity is not permitted to begin until the authorization is granted.
8. A copy of the approved and signed lift plan or lift notification used for the activity shall be submitted by the Contractor to CNS Pantex for the project records. The submittal coversheet shall state that it is for a record copy and shall be submitted within 2 working days of receiving it. Any approved and signed lift plan or lift notification updates, revisions or addendums shall also be submitted within two working days after receipt and the submittal coversheet be marked appropriately for a record copy.
9. The Contractor shall use qualified Signal persons for all crane operations. Spotters/Flaggers shall be used for operations involving the use of cranes and non-crane equipment in areas with obstructed views, heavy obstacles, narrow passageways, high congestion, or areas identified by CNS STR or PM. For areas requiring a dedicated spotter/flagger, the Contractor shall document the individual(s) in the daily report.
	1. Mobile Crane Operations
		1. Mobile crane operations are to comply with 29 CFR 1926.1400, Subpart CC, and DOE-STD-1090.
		2. Crane operators shall have proof of license prior to performing any hoisting and rigging operations.
		3. A durable rating chart with legible letters and figures shall be provided with each crane and attached in a location accessible to the operator while at the controls.
		4. A daily preoperational check will be performed to verify operation of the controls and to inspect crane hooks, wire rope, hydraulic systems, and warning systems for operation or damage.
		5. Crane owners shall have a documented preventive maintenance program as specified in 29 CFR 1926.1400, Subpart CC.
		6. Operators shall not engage in any activity that will divert attention from operating the crane. In addition, the Operator shall not operate the crane if experiencing any condition that could result in reduced physical or mental capabilities.
		7. Operators shall know the rated capacity of the crane and the weight of the load.
		8. Operators shall test for crane stability before lifting loads.
		9. Operators shall always fully extend outriggers unless otherwise specified on the manufacturer’s load chart for the crane.
		10. If operating crane near power lines, maintain a minimum of 10 feet clearance between the crane hoist or boom and an energized line of 15 kV or less. Any energize overhead power lines greater than 15 kV will require a minimum clearance of 15 feet.
		11. Assure that the load is attached to the load block hook properly, securely, and using approved slings and devices.
		12. Ordinary lifts require a designated leader who shall be present at the lift site during the entire lift operation.
	2. Forklift Operations
		1. Forklift operations are to comply with DOE-STD-1090, 29 CFR 1910.178, and 29 CFR 1926.602 (dependent upon work location).
		2. Forklifts shall not be used beyond the rated capacity.
		3. Forklifts shall have a nameplate with the truck model and serial number, weight of the truck, rated capacity, and additional information concerning codes and standards.
		4. Instructions for the pre-operational inspections shall be readily available to the Operator.
		5. Forklift Operators shall provide documentation of training and qualification.
		6. Operators shall perform daily pre-operational checks.
		7. Prior to initial use of newly arrived rental forklift, the forklift shall be inspected by a qualified inspector.
		8. Do not attach or operate any attachment on a forklift that has not been approved for use by the manufacturer.
		9. Lifts require a Person-In-Charge (PIC) who shall be present at the lift site during the entire lift operation.
		10. A CNS Pantex approved lift plan will be required for forklift operations by the Contractor if:
	3. The tines of the forklift are extended above the roof of a building/ramp that could impact a CNS Pantex material access route, or
	4. A forklift is used for a “below the tine” lifting activities using slings.
		1. The Contractor shall use Spotters/Flaggers for forklift operations in areas with obstructed views, heavy obstacles, narrow passageways, high congestion or areas identified by CNS STR or PM. For areas requiring a dedicated spotter/flagger, the Contractor shall document the individual(s) in the daily report.
	5. Slings
		1. Use and inspection of rigging slings (wire rope, alloy steel-chain slings, and synthetic slings) are to comply with DOE-STD-1090.
		2. Slings should be stored in racks (preferably vertical) when not in use and should be protected from chemical and mechanical damage.
		3. Slings shall be visually inspected prior to each use by a qualified inspector.
		4. Wire rope slings shall be marked with the following information: Name or trademark of the manufacturer, rated capacity for the type of hitch(es), and diameter size.
		5. Synthetic slings shall be permanently marked with the following: name or trademark of the manufacturer, manufacturer’s code or stock number, rated capacity for types of hitches used, type of core, cover, or web material, and the inspection due date.
		6. Slings shall be removed for service if showing signs of damage or missing or illegible sling identification.
	6. Rigging Accessories
		1. Use and inspection of rigging accessories are to comply with DOE-STD-1090.
		2. The Rigger or other designated person shall visually inspect rigging accessories at the beginning of each work shift prior to use.
		3. Rigging hooks shall be marked with the manufacturer’s identification by forge, cast, or die-stamped in a low stress and non-wearing area of the hook.
		4. Shackles shall be marked with manufacturer’s name or trademark, size, and rated capacity.
		5. Eyebolts used for hoisting shall be fabricated from forged carbon or alloy steel.
		6. Eyebolt marking: carbon steel shall have the manufacturer’s name or trademark. Alloy steel shall have the symbol “A” and the manufacturer’s name or trademark.
		7. Swivel hoist rings shall be fabricated from carbon or alloy steel and shall be marked with the working load limit.
		8. If D-Rings used for load transport become a burden to the moving process or load positioning, they should be removed. This should be added to the Definable Features of Work and AHA documents.
		9. Wood cribbing and spacers shall not be allowed for use in conjunction with the use of jacks.
		10. The Contractor will designate a competent person to supervise rigging operations.
	7. Demolition

**NOTES:**

* All unmarked building materials including TSI are considered to be Potential Asbestos Containing Materials (PACM).
* All areas must be walked down for potential hazards and such hazards must be documented and relayed to all workers and sub-tier contractors, identified on the PX‑6109 and provided to all workers, contractors and subcontractors. The identified area potential hazards will be physically labeled and hazard notifications posted.
* The Final Scope of Work (SOW) document must accompany any developed Project Asbestos Abatement Plan and Texas Department of State Health Services (DSHS) notification as an initial submittal to Safety and Industrial Hygiene (S&IH) and Environmental Compliance (ECD) for evaluation and approvals.

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| **CAUTION** |
| Notify S&IH for evaluation prior to any disturbance of PACM materials. The DSHS defines demolition as operations in which **load-bearing structural members** of a building are wrecked or removed.Demolition may not begin until after a notification to the DSHS has been filed and the relevant waiting period has passed. Any change from the representations made in the initial notification must be filed by the Contractor before those changes become effective. |

1. Initial asbestos/demolition notifications shall be prepared by the Contractor as provided below.
	1. For a demolition meeting the DSHS definition, a DSHS APB #5 form shall be submitted to CNS Pantex whether or not the facility to be demolished contains asbestos. The Contractor shall use the most current revision of the DSHS APB #5. The APB#5 notification form is available from the DSHS website address. **(**Reference<https://www.dshs.texas.gov/asbestos/pdf/AsbestosNotifcationForm.pdf>)
	2. The Contractor shall verify that the relevant data from the CNS Pantex Plant S&IH Department completed survey for the facility to be demolished is included on the APB#5 notification form.
	3. For projects performed at Pantex, certain specific information shall be provided on the form as follows:
2. On Page 1 of the form “Facility Information” Section 2, the type of facility selected should be marked as “Federal.”
3. On Page 1 of the form “Facility Information” Section 3, one of the following will be used to identify prior use/future use:
4. Office building/area (also describes training, break rooms).
5. Storage building/areas (also used for warehouses).
6. Manufacturing.
7. Passage (to be used for ramps, and similar structures).
8. Support Facility (used for any other type of structure).
9. None.
10. On Page 2 of the form “Project Information” Section A, assure a project name following “U.S. DOE/NNSA/ NNSA Production Office (NPO)” is provided (e.g., 12-9 Ramp Roof).
11. Prior to submitting the completed notification to CNS Pantex, the Contractor shall obtain concurrence from CNS Pantex of any asbestos waste transporter or disposal facility proposed on the notification form other than BFI (Allied Waste) in Canyon, Texas.
12. The Contractor shall complete the remainder of the form per the template as provided in the APB#5 notification form Instruction Guide published by DSHS. The Instruction Guide is available from the DSHS website address. (Reference <https://www.dshs.texas.gov/asbestos/pdf/AsbestosNotificationInstructionGuide.pdf>)

**NOTE: Use 30 days unless the project is to be accelerated.**

1. The APB#5 notification form shall be filled out and submitted to CNS Pantex for review at least \_\_\_\_ working days prior to the planned start of demolition or asbestos abatement activity.
2. With the concurrence of the CNS ECD, the Contractor may utilize the DSHS’s electronic notification <https://vo.ras.dshs.state.tx.us/datamart/login.do;jsessionid=y0UJBzcewrlNQgqpHNQJel1VwOwehJyYCfqgSj95.i-0d34cb9f4d8e5606c> to make this notification. The Contractor will use the information provided on the ECD-approved DSHS APB#5 form to make this notification, and will provide the CNS Project Records Coordinator with the electronic record of this registration, including all information that would have been provided by submittal of the DSHS APB #5 form.
3. CNS Pantex approval is required prior to the start of demolition.
	1. Payment of DSHS notification invoice:
4. Contractor shall make direct payment to the DSHS through its on-line function, and provide a complete record of the submittal (i.e., pdf of the DSHS verification of payment showing the invoice number) to the CNS Project Records Coordinator within five (5) days of making the payment.
5. Contractor may meet the requirement of paragraph (a) by making the direct payment by submittal of a check to the DSHS. A complete record showing payment (i.e., copy of check, invoice, DSHS-signed registered mail receipt) shall be provided to the CNS Project Records Coordinator within ten (10) working days of making the payment.
6. When required, amended APB#5 notification form(s), or amended electronic notification (s), shall be submitted by the Contractor as identified below.
7. An amended APB#5 notification form, or amended electronic notification shall be submitted to the DSHS in certain situations (e.g., changes in project schedule and other specified changes in project activities that differ from representations provided in the original or subsequent notifications to the DSHS). All information provided in a APB#5 notification form is enforceable; thus, amended APB#5 notification forms are required to be submitted whenever the project experiences:
8. A change in National Emissions Standards for Hazardous Air Pollutants (NESHAP)-trained Project Supervisor, or Abatement Contractor.
9. A change in the starting or ending dates of either abatement or demolition.
10. A change occurs in the work/emission control practices being used.
11. A change occurs in the amount or category of Asbestos Containing Material (ACM) waste being generated (applicable regulations exclude the need to notify when the change amounts to less than 20 percent of the original projections).

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| **NOTE** |
| If the Contractor proposes to change either the Waste Transporter or the Waste Disposal Facility, the Contractor Waste Management Plan must first be modified and approved by CNS Pantex Waste Operations Department. |

1. The waste transporter is changed.
2. The proposed disposal facility is changed.
3. Changes, as identified below, trigger time sensitive requirements.
4. Start-date changes to later date or changes in information other than those discussed in subsections b., c., or d. below. The Contractor is allowed to prepare/submit amended notifications directly to the appropriate DSHS office, provided that the Contractor:

###### Provides a written or electronic amended notice of the new start date to the DSHS Asbestos Program Branch as soon as possible before, but no later than, the original start date. Delivery of the updated notice by the United States Postal Service, commercial delivery service, or hand delivery is acceptable. An emailed courtesy copy to the Regional Inspector is recommended.

###### Provides a copy of the amended notification to the CNS Project Records Coordinator. This documentation must be provided to CNS Pantex no later than five (5) working days after making the notification.

###### Provides hardcopy verification to the CNS Project Records Coordinator that the amended notification was delivered to the DSHS office (e.g., copy of the registered mail delivery receipt or similar verification that an original signature notification was provided to the DSHS). This documentation must be provided to CNS Pantex no later than five (5) working days after receiving verification of delivery.

1. Abatement/demolition/renovation will begin on a date earlier than the date contained in the original or subsequently amended notice. The Contractor is allowed to prepare/submit amended notifications directly to the appropriate DSHS office, provided that the Contractor:
2. Provides a written or electronic notice of the new start date to the DSHS Asbestos Program Branch at least ten (10) working days before the start of work. Delivery of the updated notice by the United States Postal Service, commercial delivery service, or hand delivery is acceptable. An emailed courtesy copy to the Regional Inspector is recommended.
3. Provides a copy of the amended notification to the CNS Project Records Coordinator. This documentation must be provided to CNS Pantex no later than five (5) working days after making the notification.
4. Provides hardcopy verification to the CNS Project Records Coordinator that the amended notification was delivered to the DSHS office (e.g., copy of the registered mail delivery receipt, or similar verification that an original signature notification was provided to the DSHS). This documentation should be provided to CNS Pantex no later than five (5) working days after receiving verification of delivery.
5. Abatement/demolition/renovation will stop on a date that changes by more than one work day for each week (seven (7) calendar day period) for which the project was scheduled and notification submitted. The Contractor is allowed to submit amended notifications directly to the appropriate DSHS office, provided that the Contractor:

###### Provides a written or electronic notice of the new stop date to the DSHS Asbestos Program Branch as soon as possible before, but no later than the original stop date. Delivery of the updated notice by the United States Postal Service, commercial delivery service, or hand delivery is acceptable. An emailed courtesy copy to the Regional Inspector is recommended.

###### Provides a copy of the amended notification to the CNS Project Records Coordinator. This documentation should be provided by the Contractor to CNS Pantex no later than five (5) working days after providing the notification.

###### Provides hardcopy verification to the CNS Records Coordinator that the amended notification was delivered to the DSHS office (e.g., copy of the registered mail delivery receipt or similar verification that an original signature notification was provided to the DSHS). This documentation should be provided to CNS Pantex no later than five (5) working days after receiving verification of delivery**.**

1. Changes in NESHAP-trained Project supervisor, Abatement Contractor, or Demolition Contractor, work/emission control practices being used, waste transporter, or proposed disposal facility. The Contractor is allowed to submit amended written or electronic notifications directly to the appropriate DSHS office, provided that the Contractor:
2. Obtains written approval from CNS Pantex prior to the change being made.
3. Provides a written or electronic amended notification to the DSHS Asbestos Program Branch prior to the change being implemented. Delivery of the updated notice by the United States Postal Service, commercial delivery service, or hand delivery is acceptable. An emailed courtesy copy to the Regional Inspector is recommended
4. Provides a copy of the amended notification to the CNS Project Records Coordinator. This documentation should be provided by the Contractor to CNS Pantex no later than five (5) working days after providing the notification.
5. Provides hardcopy verification to the CNS Project Records Coordinator that the amended notification was delivered to the DSHS office (e.g., a copy of the registered mail delivery receipt, or similar verification that an original signature notification was provided to the DSHS). This documentation should be provided to CNS Pantex no later than five (5) working days after receiving verification of delivery**.**
6. The Contractor shall develop a procedure to positively identify conduits and piping to be removed to prevent exposure to energized utilities during demolition operations. The procedure shall detail how conduits and piping will be identified and shall address the process that the Contractor will use to verify that energy sources have been isolated. The Contractor’s procedure shall be included in the Contractor’s Safety and Health Plan.
7. The Contractor shall be responsible for inspecting the work area prior to commencing work and throughout the duration of the project. If existing utilities, including conduits or piping, or equipment installations are within the work area and are not to be moved by the Contractor, the Contractor shall notify the CNS Pantex STR and label, mark, or use some method to identify the items to be left in place. The Contractor shall not move any utilities, including conduits and piping, or equipment without authorization from the CNS Pantex STR. All outages shall comply with CNS Pantex requirements for LOTO.
	1. Fire Safety
		1. Reporting Fires
8. All fires, including fires extinguished by the Contractor, must be reported immediately to the Pantex Plant Fire Department by using one of the following methods:
* Activating a fire alarm manual pull station.
* Using a telephone to call 477-3333.
* Requesting SPOs make notification by radio.
1. All Contractor employees shall be familiar with the nearest location of fire alarm manual pull stations or telephones to prevent delays in reporting a fire.
	* 1. Emergency Exits and Means of Egress
			1. NFPA 101 will be used as the guideline for establishing all means of exit and egress. Special attention should be given to NFPA 101 Chapter 7.
			2. The Contractor shall verify the Muster Stations or Assembly Points for each work area with the STR at the start of the project.
			3. The Contractor shall familiarize all employees, including Subcontractor employees, with escape routes, mustering stations, and assembly points before assigning them to a work area.
			4. The Contractor shall assure adequate means of escape are provided for all construction employees per NFPA 1 Chapter 14.
			5. Emergency exits and passageways in existing or partially occupied new facilities will be kept clear at all times. The Contractor shall maintain a clear path at least 44 inches wide to these exists.
			6. No materials or equipment will be stored, stacked or parked in a manner preventing access to an emergency exit or egress route.
		2. Fire Extinguishers
2. The Contractor shall provide portable fire extinguishers at the construction site per NFPA 10 Chapter 5 and 7.
3. All contractor supplied fire extinguishers shall be UL 299 listed and maintained to NFPA 10 requirements.
4. Fire extinguishers must have a gauge or other visual charge indicator.
5. The Contractor shall provide and mount at least one 2 ½" pound "ABC" type fire extinguisher on equipment powered by internal combustion engines.
6. Tampers and vibrators are exempt from the mounting requirements but an extinguisher must be available within 50 feet of operations.
7. Fire extinguishers must be located where they are readily available for use.
8. All extinguishers shall be properly charged, current inspection tagged, approved safety pin, and tamper-resistant seal.
9. Fire extinguishers containing pressured water are allowed provided they are least 2 ½ gallons in size and are used where the only hazard is ordinary combustible materials (e.g., wood, paper, plastics, etc.).
10. "ABC" or "BC" rated dry chemical fire extinguishers, at least 10 lbs. in size, are required where flammable or combustible liquid fires or energized electrical fires may occur.
11. The Contractor shall not remove Government owned fire extinguishers from their installed locations except for emergency use.
	* 1. Cutting, Welding, and Other Hot Work
12. The Contractor shall use NFPA 51B Chapter 4 and 5 and NFPA 241 Chapter 5 as a guideline for performing cutting, welding, grinding or other hot work.
13. The Contractor shall request and obtain a CNS Pantex Permit for Hot Work (PX-5394) prior to performing any Hot Work. A copy of the approved and signed permit used for the activity shall be submitted by the Contractor to CNS Pantex for the project records. The submittal coversheet shall state that it is for a record copy and shall be submitted within 2 working days of receiving it. Any approved and signed permit updates, revisions or addendums shall also be submitted within two working days after receipt and the submittal coversheet be marked appropriately for a record copy.
14. The Contractor shall perform all brazing, welding and cutting operations in compliance with 29 CFR 1926, Subpart J. The Contractor shall include brazing, cutting, and welding safety requirements in the Contractor’s Safety and Health Plan. Safety requirements shall include PPE requirements, protection of hoses and cables, cylinder storage, fire protection, and fire prevention.
15. Prior to performing “Hot Work” (welding, cutting, etc.) or operating other flame producing/spark producing devices, the Contractors are required to provide at least two (2), twenty (20) pound 4A:20 BC rated extinguishers. All extinguishers shall be current inspection tagged, approved safety pin, and tamper-resistant seal.
16. A designated FIRE WATCH is required for any “Hot Work” performed at CNS Pantex. The Fire Watch shall be trained in accordance with NFPA 51B Chapter 4 and 5 and remain on-site for a minimum of 60 minutes after cessation of Hot Work or as specified on the hot work permit. Personnel assigned fire watch duties shall check all concealed and blind areas to confirm there are no hidden or smoldering fires before leaving the area.
17. The designated Fire Watch shall be assigned no other concurrent duties. The Fire Watch shall wear fire retardant clothing.
18. A Fire Watch shall be posted on each side of a wall where Hot Work is being performed.
19. The Contractor is responsible to perform pre-job inspections of proposed Hot Work locations. The pre-job inspection will include the identification of potential fire potential hazards to aid in the determining of hazard controls. To the extent possible, cutting, welding and grinding operations shall be conducted to direct sparks or slag toward open areas where all combustibles have been removed.
20. The Contractor is responsible for protecting any equipment of structures that could be damaged while performing Hot Work operations.
21. Openings in floors, wall, ducts, and blind areas within 35 feet of the work shall be covered.
22. All curtains for welding flash protection shall be suitable to protect personnel from the flash.
23. No cutting, welding, or grinding on HE contaminated piping or piping that is painted white is permitted without the approval of the Safety Department.
24. The Contractor shall not perform cutting, welding, grinding, or other Hot Work in any facility or on any fixtures, duct work, or equipment that may be contaminated with HEs or solvents unless the work has been approved by the Nuclear Explosives Safety Department.
25. The Contractor shall be required to provide ventilation and respiratory protection (if needed) to assure worker exposures do not exceed any OSHA PEL or ACGIH TLV. The most stringent exposure limit will be enforced.
26. Unless otherwise approved by CNS Pantex Plant, the Contractor shall not use welding rods or electrodes that contain lead or brazing filler metals, which contain cadmium.
	* 1. Electric Arc Welders
			1. Electric arc welders shall be operated in accordance with NFPA 70, Chapter 6, Article 630.
			2. Unless the building frame is completely exposed between the ground and the worksite, no part of the building frame, lightning protection system or grounding system will be used as an earth ground for welding operations.
			3. Ground leads shall be connected as near as possible to the worksite to prevent arcing in blind areas.
			4. Cables shall be of adequate size for the current used and in good condition.
			5. Electric arc welders that could be connected to facility power shall have the plug wiring physically inspected and verified, by CNS Pantex, to be compatible to building power prior to being connected.
		2. Sprinkler and Riser Systems
			1. Building sprinkler, risers or any part of a fire protection system shall not be used as an anchor or suspension point for any construction activities.
			2. Impairment of any fire protection system or component requires compensatory actions (fire watch) and prior approval from CNS Pantex.
		3. Smoking Areas
			1. Smoking is prohibited in all existing buildings and structures except in designated and approved locations.
			2. The Contractor may request permission to establish smoking areas from the Fire Prevention Officer.
			3. Smoking areas will not be permitted:
	1. Within 50 feet of an existing structure.
	2. Inside a new structure if it is attached to an existing structure and the new structure is not protected by a fully operational sprinkler system.
		* 1. Smoking areas shall be posted with signs supplied by the Contractor.
			2. Adequate receptacles (butt cans) to extinguish smoking materials shall be provided by the Contractor.
			3. The Contractor shall provide 10-lbs "ABC" fire extinguishers in each designated smoking area.
			4. The Contractor shall supply permanently mounted electric cigarette lighters. Matches and all other lighters are prohibited.
			5. Smoking shall be discontinued 60 minutes prior to the end of the work shift. No construction site shall be left unattended until 60 minutes after the last smoking material is extinguished.
			6. Smoking areas shall be kept clean and all waste materials shall be removed daily.
		1. Equipment Inspection

Equipment shall meet the following fire safety criteria:

1. Fuel systems (except Liquid Petroleum Gas (LPG) or Liquid Natural Gas (LNG) for tar pots or portable heaters) must be permanently mounted.
2. When fuel systems are equipped with air cleaners, they must be in place.
3. Fuel caps or covers must be in place.
4. Batteries must be firmly mounted to prevent arcing.
5. Externally mounted batteries must be covered and firmly mounted.
6. All electrical wires must be in good condition.
7. Motor vehicles must have a muffler or spark arrestor in place while in operation.
8. Exhaust manifolds and header pipes must be free from leaks.
9. Exhaust shall be directed away from operating personnel.
	* 1. Portable Heating Equipment
10. Portable heaters fueled by combustible liquids must be approved by a nationally recognized testing laboratory, have legible labels and instructions affixed to the heater, use a fuel with a flash point greater than 100 degrees Fahrenheit (°F).
11. Portable heaters fueled by LPG must be approved by Underwriters Laboratories or Factory Mutual, follow the guidelines in 29 CFR 1926.153.
12. Portable heating equipment will be used only after it is approved and labeled by the Fire Prevention Officer and Construction Safety.
13. When feasible, the Contractor shall station portable heaters outside of buildings and duct the heat inside. Duct material shall be approved and rated for this use.
14. Equipment must be installed per code and manufacturer’s requirements, including maintaining required clearances from combustible materials.
15. Fueling by combustible liquids requirements:
	1. All operations producing heat, flame, or sparks within 50 feet of the heater must be shut down prior to fueling the heater.
	2. Heaters will be shut down and allowed to cool before fueling.
	3. Approved metal safety containers of 5 gallon capacity or less will be used to fuel portable heaters.
	4. The safety container will be moved at least 50 feet from the heater prior to relighting.
	5. Remove all combustible materials from within 10 feet from the rear and sides and 30 feet from the discharge side of the heater.
	6. The Contractor shall supply and keep a dedicated fire extinguisher (minimum 10-lbs "ABC") within 10 feet of the heater.
	7. Heaters shall have a safety control to prevent discharge of fuel in case of ignition failure or flame extinguishment and a safety shut‑off device that minimizes fire potential hazards in the event the heater is tipped or turned over.
16. Fueling by LPG requirements:
	1. Flexible hose may be used on the low pressure side of the fuel regulator to connect to the portable heater.
	2. For indoor use, the hose will be kept to a minimum length. Hose length should be as near 6 feet in length as practical.
	3. A leak test, at normal operating pressure, will be performed on the complete system prior to lighting the pilot or burner.
	4. Remove all combustible materials from within 10 feet from the rear and sides and 30 feet from the discharge side of the heater.
	5. The Contractor shall supply and keep a dedicated fire extinguisher (minimum 10-lbs "ABC") within 10 feet of the heater.
	6. Refilling of LPG cylinders will not be allowed inside structures. All ignition sources within 50 feet must be extinguished when changing cylinders. LPG cylinders will be securely fastened to prevent tipping/falling over.
	7. Heaters shall have an automatic device to shut off the flow of gas to the main burner or pilot in the event of flame extinguishment or combustion failure and an approved electric ignition system or a pilot, which must be lit and proven before the main burner can be turned on.
		1. Storage of Combustible Building Materials
			1. The Contractor shall reference 29 CFR 1926.152 as guidelines for the storage of combustible building materials.
			2. Temporary storage of combustible building materials is not permitted inside existing structures when the fire protection system is out of service unless authorized by the STR and the Fire Prevention Officer.
			3. Combustible building materials shall not be stored in unprotected structures under construction or alteration unless authorized by the STR and the Fire Prevention Officer.
			4. Combustible building materials shall be stored at least 30 feet from other structures.
		2. Storage of Flammable and Combustible Liquids
17. The Contractor shall use NFPA 30 as guidance for handling, storing, and dispensing flammable and combustible liquids.
18. Class II combustible liquids having a flash point at or above 100° F and below 140° F will be handled and stored as a flammable liquid. This class includes: diesel fuel, kerosene, some types of parts and equipment cleaners, and various paint thinners.
19. Flammable or Class II Combustible liquids in quantities of five gallons or less will be transported and stored in metal safety containers approved by a nationally recognized testing laboratory.
20. The safety container must be equipped with a spring closing lid and internal spark arrestor. Spring operated lids must function as designed. Spark arrestor screens must be in place and in good condition.
21. Containers must be properly identified and labeled.
22. Bulk storage of flammable or combustible liquids must be approved by the Fire Prevention Officer.
23. Bulk storage containers must have a dike constructed around them that will hold 110% capacity of the largest container in the event of a spill or release.
24. At least two 10-lbs "ABC" or "BC" type fire extinguishers mounted on posts no farther than 50 feet from, nor closer than 25 feet to, the diked area will be in place at all times.
25. Where gravity flow tanks are installed, emergency shut off valves will be in place between the tank and the transfer valve. Emergency shut off valves will be clearly identified, labeled, and operable.
26. The Contractor or fuel supplier will attach locking devices to the tank(s) to prevent unauthorized access to the contents. Keys will be maintained by the Contractor for their use.
27. Storage of Class I or Class II liquids shall not exceed 60 gallons within 50 feet of a structure.
28. Fuel for internal combustible engines shall not be stored within structures under construction, alteration, or demolition.
	* 1. Storage and Handling of Combustible and Flammable Gases
29. Storage and handling of combustible and flammable gases shall be in accordance with 29 CFR 1926.153.
	* 1. Temporary Enclosures
			1. NFPA 241 Chapter 8 shall govern the selection of materials and the installation of temporary enclosures.
			2. Temporary enclosures, barricades, or sight barriers must be of a flame retardant material or painted with an approved flame retardant paint. The enclosing material shall be securely fastened to avoid blowing into a source of ignition.
			3. The Contractor must supply an approval form or qualification test of the material prior to its use.
			4. Materials, such as Griffolyn 75FR, that will not support or contribute to a fire shall be used.
			5. Plastic films, tarpaulins, and other type of drapes shall not be used.
		2. Blocking Exits
			1. If the nature of the work requires blocking an exit, the Contractor shall assure acceptable alternate exits are available and obtain concurrence from the Fire Prevention Officer and the STR.
			2. If an exit is removed from service, the Contractor shall remove or cover all signs directing personnel towards that exit.
			3. A "NO EXIT" sign with letters at least 3 inches high made of reflective material shall be placed on the door.
			4. The Contractor shall verify with the STR that the building occupants have been informed the exit is no longer available for use.
			5. Hasps or locking devices shall not be placed on an emergency exit.
			6. The Contractor shall remove all chains or locks placed on exit doors for security at the end of shift if the area will be occupied by Plant personnel.
			7. Emergency exits shall be returned to service as soon as possible after completion of work.
			8. The Contractor shall replace or uncover any signs covered or removed when the exit was removed from service.
			9. All “NO EXIT” signs installed when the exit was removed from service shall be removed.
		3. Fire Hydrants
			1. Fire hydrants must be available at all times for emergency use. Fire hydrants will not be blocked or obstructed at any time.
				1. A 36 in. (914 mm) clear space shall be maintained around the circumference of the fire hydrant except as otherwise required or approved.
				2. A clear space of not less than 60 in. (1524 mm) shall be provided in front of each hydrant connection having a diameter greater than 2 ½ in. (64 mm).
			2. All connections to fire hydrants made by the Contractor shall be approved by the Pantex Plant Fire Department. If a continuous supply or large volumes of water are required, the Contractor can request permission from the Pantex Plant Fire Department to make connections daily rather than obtain approval for each individual connection.
			3. Approved pentagon type hydrant wrenches shall be used to operate fire hydrants.
			4. Connections may be made at the 4-½ inch National Standard Thread (NST) or the 2 ½ inch NST thread connection.
			5. Couplings shall be removed and hydrant caps replaced after each use.
			6. The Contractor shall provide and use a fire hydrant hose bib equipped with an approved Reduced Pressure Zone Backflow Prevention Assembly (RPBA), with proof of current inspection by a TCEQ licensed RPBA Inspector, and a gate valve, or maintain an air gap between the domestic water system and the unit being filled.
			7. Fire hydrants shall be fully opened and closed slowly.
		4. Fueling Operations - Vehicles and Light Equipment
			1. Fueling of vehicles such as pickups, trucks and similar equipment will be performed at the bulk storage area.
			2. Light equipment with internal combustion engines (e.g., tampers, vibrators, etc.) may be fueled at the jobsite provided a Contractor supplied 10-lbs "ABC" or "BC" fire extinguisher is located at the fueling site and all engines, motors, and spark producing devices within 50 feet are stopped.
			3. Fuel shall be transported in approved metal safety containers of 5 gallons or less.
			4. Fuel containers shall be removed immediately after fueling.
			5. Fuel containers shall be approved by a nationally recognized testing laboratory, equipped with a spring closing lid and internal spark arrestor and be properly identified and labeled.
			6. The quantity of fuel at the jobsite shall be limited to that necessary for one day of operation.
			7. Internal combustion engines shall be shut down and allowed to cool prior to refueling.
		5. Fueling Operations - Heavy Equipment
			1. Fueling of heavy equipment such as motor graders, tracked vehicles, and other specialized equipment shall be performed in designated areas.
			2. Bulk fueling may be performed at the jobsites provided the following requirements are met:
	1. At least two fire extinguishers (10-lbs "ABC" or "BC") shall be properly mounted on all fuel trailers or trucks.
	2. All engines and motors (except approved dispensing motors) shall be stopped during fueling operations.
	3. All open flames will be extinguished during the fueling operation.
	4. No smoking is allowed within 50 feet of the fueling operation.
	5. Cutting, welding, grinding, or other hot work within 50 feet of the fueling operation must be discontinued.
	6. Service vehicles and fuel trailers will be placarded on four sides with:
30. "No Smoking Within 50 Feet," and
31. The proper UN or Department of Transportation (DOT) Identification numbers (1203 and/or 1993) and placarded as Class 3 Flammable and Combustible Liquid.
	* + 1. Fueling is not permitted inside buildings, ramps or other enclosures or within 50 feet of existing structures.
			2. Bulk fuel vehicles and trailers will be removed from the jobsite immediately after fueling operations are complete. They will be kept at the bulk fuel storage area or off Pantex property.
			3. If fueling operations require more than 100 gallons of fuel to be transported into the Zone 4 MAA or Zone 12 MAA, the following additional requirements shall apply:
	1. Pantex Plant Fire Department personnel and apparatus capable of supplying Aqueous Film Forming Foam (AFFF) shall be staged in the MAA before bulk fuel vehicles or trailers are allowed to enter the MAA.
	2. Pantex Plant Fire Department personnel and apparatus capable of supplying AFFF shall accompany the bulk fuel vehicles or trailers while in the MAA.
	3. Pantex Plant Fire Department personnel will maintain constant visual contact with bulk fuel vehicles or trailers during transportation and fueling operations inside the MAA.
	4. The Contractor shall cooperate with the CNS Pantex STR to coordinate bulk fuel truck movements with Transportation operations.
		* 1. Dispensing pumps shall be approved by a nationally recognized testing laboratory.
			2. Automatic shut‑off nozzles are required on all electric or pneumatic pumps.
			3. Flammable liquid dispensing nozzles approved by the Fire Prevention Officer will be used.
			4. The dispensing nozzle shall be in contact with the vehicles being fueled to prevent static discharge. Bonding straps between the two vehicles may be required.
			5. Fuel pumps shall not operate from the dispensing vehicle's engine unless it is powered by an approved power take off driven pump.
		1. Tar Kettles
			1. The Contractor shall use NFPA 1 Chapter 16 and 41, and NFPA 241 Chapter 9 as guidelines for tar kettles.
			2. The location of tar kettles shall be approved by the Fire Prevention Officer. The Contractor shall request and obtain a CNS Pantex Permit for Hot Work (PX-5394) prior to using the tar kettle if the Fire Prevention Officer deems one is needed. A copy of the approved and signed permit used for the activity shall be submitted by the Contractor to CNS Pantex for the project records. The submittal coversheet shall state that it is for a record copy and shall be submitted within two working days of receiving it. Any approved and signed permit updates, revisions, or addendums shall also be submitted within two working days after receipt and the submittal coversheet be marked appropriately for a record copy.
			3. The Contractor shall position tar kettles using the following guidelines:
	5. All vegetation will be removed from under and 10 feet around the kettle.
	6. Kettles shall not be positioned closer than 25 feet from a structure if the adjacent wall has no openings. If doors, windows or other openings are in place, the minimum distance will be extended to 50 feet. Exceptions to this requirement may be approved by the Fire Prevention Officer, if warranted, and additional safety measures are implemented.
	7. Kettles shall not be positioned closer than 50 feet from any building containing HE or marked with the symbol "1."
	8. Motorized vehicles will be detached and moved away from the kettle prior to lighting the burners.
	9. At sites where the tar kettle is positioned over blacktop or pavement, a 3-inch layer of sand or soil will be placed between the pavement and the kettle. The layer of sand or soil will extend 12 inches beyond the outside edge of the kettle.
	10. At sites where the tar kettle is positioned over vegetation, the Contractor shall mow the area and place a fire retardant blanket between the vegetation and the kettle.
		* 1. The Contractor shall operate tar kettles using the following requirements:
	11. Operators shall be familiar with the operation and safety features of the tar kettle.
	12. A fire extinguisher rated not less than 20-B shall be no closer than 5 feet and no further than 25 feet of horizontal travel from every kettle in operation.
	13. Temperature probes or sensors will be in place and operational.
	14. Fuel tanks will be permanently mounted or positioned to prevent tipping or falling. Fuel tanks, if not permanently mounted, must be removed from the work site at the end of the workday.
	15. The fuel tank will be attached to the tar kettle with hose or piping designed for use with that fuel.
	16. One way check valves between the burner and the fuel source will be in place.
	17. Fuel containers located at the site shall be connected for use. Only a one-day's supply of fuel will be allowed at the jobsite. Additional fuel containers will be located away from the worksite in a protected location.
	18. Metal covers or lids must be in place to smother fires.
	19. Tar kettles must be attended at all times when the burners are lit.
	20. Tar pumps and piping must be properly supported and stabilized to prevent falling.
		1. Roofing Operations
			1. The Contractor shall use NFPA 1 Chapter 16 and NFPA 241 Chapter 9 as guidelines for roofing operations.
			2. Fire extinguishers rated at least 2-A:20-B:C will be located on the roof so the maximum travel distance does not exceed 20 feet.
			3. Scrapers with internal combustion engines may be fueled on the roof if a 10-lbs "ABC" fire extinguisher is located at the fueling site and all engines, motors, and spark producing devices within 50 feet are stopped and fuel is in approved safety containers of five gallons or less and they are removed immediately after fueling.
			4. All roofing mops will be removed from the roof at the end of the workday. All roofing mops must be kept away from ignition sources and combustible materials.
			5. For torch-applied roofing, a fire watch shall be posted for the duration of the work and remain for 60 minutes after torches have been extinguished.
	21. Powder-Actuated Tools
		1. Contractor personnel using powder-actuated tools must be trained and certified (i.e., licensed). Proof of certification must be maintained at the construction site.
		2. The Contractor will assure that the powder-actuated tools, and all loaded cartridges, are controlled at the jobsite and not left unattended or made available to unauthorized personnel. The powder-actuated tools, and all loaded cartridges, are to be removed from the project site daily.
		3. The Contractor will address specified operational safety requirements for powder-actuated tools in an AHA.
	22. Electromagnetic Radiation Producing Equipment
		1. The Contractor shall not use any equipment in Zone 4, Zone 11, Zone 12 South, Zone 12 MAA, the Burning Grounds, or the Firing Site Areas that could emit radio frequencies unless approved by CNS Pantex. Equipment that could emit radio frequencies include:
* Vehicle two-way radios.
* Portable two-way radios.
* Signal generators.
* Intrusion detectors.
* Electronic sweep oscillators.
* Radar equipment.
* Cellular phones.
* Ground penetrating radar.
* Field magnetometers.
	+ 1. If the Contractor requires equipment that could emit radio frequencies in the listed areas, the Contractor shall complete a PX-740 and obtain approval prior to the use of this equipment.
	1. Explosives Safety
		1. CNS Pantex will identify operations that could encounter structures and/or equipment that may have explosives residue. The Contractor will not perform any work on any structure, equipment, utility, piping, duct, or other object that is, or may be, contaminated with HEs without prior approval from the Nuclear Explosives Safety Department. The assigned STR will coordinate prior approval with the Contractor and Nuclear Explosives Safety Department. Final approval will be in the form of an approved Standard Operating Procedure (SOP). The Contractor will assure all personnel performing decontamination operations must be thoroughly familiar with their duties and the hazards involved. The Contractor shall consider and address the following applicable requirements:
			1. Decontamination and Cleaning
				1. Hot water 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 cotton cloths, paper wipes, and approved non-metallic brushes or capers should be used in conjunction with hot water, steam, and solvents.
				2. Disposal of waste generated during decontamination shall be coordinated with Waste Management personnel through the project’s STR.
			2. Cleaning Contaminated Equipment
				1. Items to be cleaned should be positioned so that water and residue will drain directly into an approved collection system.
				2. Personnel decontaminating facilities and equipment shall use personal protective equipment as required. Emergency shower and eyewash shall be provided where needed.
				3. Exhaust ventilation may be required to remove toxic explosives fumes, vapors, or steam from the decontamination area.
			3. Cleaning Screw Threads
				1. Threads should be cleaned by judicious use of approved non-metal “picks,” solvent, hot water, or steam. Soaking in solvents and applying penetrating oil may be useful.
				2. After decontaminating threads or screws, bolts, pipe, etc., operator protection may still be required to facilitate safe disassembly.
			4. Final Decontamination and Disposal of equipment
				1. 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. NOTE: If it is not feasible to disassemble equipment for the purpose of decontaminating, arrangements will be made with the Nuclear Explosives Safety Department as to how to disconnect, load, and transport such material so it can be properly disposed of.
			5. Inspection
				1. After decontamination procedures are complete and before transfer to a nonexplosive area, the contractor will provide 48-hrs advance notice to the STR to have the item(s) inspected by CNS Pantex Explosives Safety.
				2. The degree of decontamination shall be determined/documented and the items shall be labeled by the Nuclear Explosives Safety Department to indicate its decontamination state.
			6. Identification and Control of Decontaminated Items
				1. Decontaminated items shall be stored separately from non-contaminated items until final disposition is made.
		2. The use of explosives by Contractors at the Pantex Plant is prohibited unless prior arrangements are made and are incorporated into contract documents. If explosives are allowed, the operations will be performed in accordance with 29 CFR 1910.109 requirements. The use of explosives will require the submittal and approval of an Explosive Safety Work Plan. The plan, at a minimum, shall address the following controls:
* Scope of work requiring the use of explosives.
* Type of explosives to be used.
* Transportation of explosives.
* Storage of explosives.
* Site controls (communication, no smoking, radio frequency, etc.).
* Control zone.
* Notification requirements.
* Explosives operations (i.e., unpacking explosives, installing explosives, detonation of explosives).
* Miss-fire procedures.
* Personnel qualifications.
	1. Concertina (Razor) Wire
		1. The security fencing in the PAs of Pantex could be equipped with concertina (razor) wire. The wire is designed and positioned to impale and hold an intruder in place. Special tools and techniques are required to remove anyone trapped in this wire.
		2. The CNS Pantex Plant Fire Department has the equipment required to extricate persons who become entangled.
		3. Call 477-3333 immediately or request a SPO notify the CNS Pantex Plant Fire Department if a person becomes trapped.
		4. If this contract requires Contractors to place employees near this wire, the Contractor shall conduct safety meetings to instruct their employees on the potential hazards of razor wire and incorporate the hazard into the AHA. The CNS Pantex Plant Fire Department is available for these safety meetings.
		5. Personnel working near concertina wire need to be informed of the following safety requirements:
			1. Employees are to stay alert and know the location of the wire at all times.
			2. Employees are not to touch the wire if the job does not require it.
			3. Employees that become entangled in the wire shall remain calm and minimize any body movement.
			4. Other employees should never attempt to extricate anyone trapped in the wire. Attempts to untangle an employee could jeopardize the rescuer and cause additional injury to the victim.
	2. Inclement Weather
		1. The Contractor will be informed when lightning warnings are issued at the Pantex Site. When lightning warnings are issued, a representative of the Contractor shall determine if it is necessary to leave the work location until the warnings have been canceled. Termination of work when lightning warnings are issued is not mandatory. Lightning Personnel Safety Conditions will be issued when lightning strikes are detected within a 10-mile radius of the Pantex site. When Lightning Personnel Safety Conditions are issued, the Contractor shall terminate all exterior operations. The Contractor shall direct all Site personnel to seek shelter inside company vehicles or buildings.
		2. When high winds, ice, or other hazardous condition are present, Personnel Safety Conditions will be announced by the CNS Pantex Plant OC. When Personnel Safety Conditions are issued, a representative of the Contractor shall determine if it is necessary to leave the work location until the warnings have been canceled. If conditions become severe, CNS Pantex Plant may direct the Contractors to cease effected work until Personnel Safety Conditions are canceled.
		3. When performing elevated work, unless evaluated by the Competent Safety Person, the assigned STR, involved Contractor employees and an S&IH Representative, activities will cease when wind speeds, including gusts, exceed 25 mph. If work activities and wind conditions are evaluated and employees are allowed to perform elevated work when the wind is in excess of 25 mph, including gust, justification for approval will be documented by the Competent Safety Person on the Contractor’s daily log.
		4. If tornado warnings are issued, the Contractor shall seek the best available shelter. If the Contractor is under Security Escort, the Contractor shall follow the direction of the SPO. If the Contractor is not under Security Escort, and a harden structure is not accessible, the Contractor shall seek shelter in ditches, depressions, or culverts.
	3. Pesticide Applications
		1. A pesticide is any substance or mixture of substances intended to prevent, destroy, repel, or mitigate any pest or for use as a Plant regulator, defoliant, or desiccant. Examples of pesticides include: insecticide, fungicide, herbicide, rodenticide, predicide, nematicide, avicide, molluscicide, and piscide.
		2. The Contractor shall submit proof the applicator has:
			1. A current Certified Commercial Applicator License from the Texas Department of Agriculture or the Structural Pest Control Board.
			2. Appropriate bonding and insurance.
			3. The Contractor shall have the MSDS for the pesticides. The MSDS must be accessible to all employees associated with the project requiring the application.
			4. The Contractor shall provide and require the use of appropriate PPE while handling, mixing or applying pesticides.
	4. Pesticide Application Notification
		1. Before applying an agriculture pesticide, the Contractor shall make the notifications as referenced in 40 CFR 170.
		2. Before applying a structural pesticide, the Contractor shall make the notifications specified in Article 135B-6.
		3. The Contractor shall coordinate the application with the STR at least two working days prior to the application.
		4. The Contractor shall inform the STR of the:
			1. Type of pesticide to be used.
			2. The targeted pest.
			3. Date and time of the planned application.
		5. If a scheduled application is canceled, the entire notification process shall be repeated for the new application date.
		6. The Contractor shall verify with the STR that the CNS Pantex Plan OC has the date and time the application will occur. The Contractor shall verify with the STR that notification of the OC has taken place prior to the start of the application.
	5. Pesticide Recordkeeping
		1. The Contractor shall submit a completed PX-3736 (Exhibit 5) no later than 24 hours after application and provide the STR with a copy of the record.
		2. The Record of Pesticide Application shall contain the following information:
			1. Date and time of day that each application started and ended.
			2. Name of the STR or the Project Manager for whom the application was made.
			3. The location of the building or land where the application was made, stated in a manner that would permit inspection by authorized parties (such as building numbers or grid numbers from a Plant grid map).
			4. The pesticide applied, including:
1. Product name.
2. The products Environmental Agency registration number.
3. Rate of product applied per unit (e.g., lb/acre).
4. Total volume of spray mix, dust, granules, or other materials applied (e.g., lb, gal, oz).
	* + 1. Name of the pest targeted.
			2. Total acreage or building area treated.
			3. Wind direction and velocity and air temperature during outdoor application.
			4. Description of application equipment used.
	1. Asbestos
		1. Installation of New Materials: No products containing asbestos are to be used in the performance of this contract.
		2. All areas will be walked down to inspect for ACM, results documented on a PX‑6109 and provided to all workers, contractors, and subcontractors. If ACM is identified and will be disturbed, (cut, modified, or removed) those items will be physically labeled and area hazard notifications posted.
	2. \*No Asbestos in Scope of Work

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| **NOTE** |
| \*REMOVE Section 1.46 if the scope of work *requires asbestos* abatement. |

1. No asbestos is expected to be encountered during the performance of this contract.
2. The work area has been inspected by Pantex S&IH and validated to be free of any ACM.
3. The area “ACM free” information has been documented on the PX-6109 and provided to all workers, contractors, and subcontractors.
4. If materials containing asbestos or materials suspected to contain asbestos are encountered, the Contractor shall stop work immediately and notify the STR.
	1. \*Asbestos Abatement

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| **CAUTION** |
| Notify S&IH for evaluation prior to any disturbance, or conduct of any work on any PACM materials. |

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| **NOTE** |
| All unmarked building materials including Thermal System Insulation (TSI) are considered to be PACM.Prior to an approved AHA, walk-downs will be documented on the PX-6109. Any additional reviews, discovery of unidentified material/hazards, changed field conditions, project changes, or design changes involving construction project walk-downs will be documented and tracked using the PX-6109.The identified area potential hazards that are to be disturbed (modified, cut, or removed) will be physically labeled and area hazard notifications will be posted prior to start of any work.The Final SOW document must accompany any developed Project Asbestos Abatement Plan and State of Texas notification as an initial submittal to S&IH for evaluation and approvals.**\*REMOVE Section 1.47 if the scope of work *does not require asbestos* abatement.** |

1. A draft abatement plan and the approved project SOW shall be submitted by the Contractor for CNS Pantex review at least 10 working days prior to beginning removal of ACM. The draft abatement plan shall provide:

A description of negative air enclosures, glove bags, and any local exhaust ventilation.

1. Negative pressure enclosures shall be maintained to at least ‑0.02 inches of water, 24 hours per day, throughout the entire abatement and clean‑up operation.
2. Negative pressure enclosures shall provide at least 4 air changes per hour.

A description of any decontamination facilities (clean change room, shower facilities, etc.).

A basic description of the type and regulatory category of ACM (Regulated Asbestos Containing Material (RACM), Category I or Category II Non-Friable) to be removed and the methods of removal.

A description of personal hygiene procedures including the removal of PPE.

Evidence that the abatement Contractor possesses a current Texas DSHS Abatement Contractor license, the supervisor possesses a current DSHS Asbestos Abatement Supervisor license, and that all abatement personnel possess current Asbestos Abatement Worker licenses.

Proof the abatement personnel are currently certified by a licensed physician to wear respiratory protection and work with the ACM.

Evidence of current respiratory fit testing for all abatement employees. The fit test shall meet the requirements of OSHA requirements 29 CFR 1926.1101.

The name and address of the air monitoring Contractor and laboratory.

A description of the respiratory protection program including the selection, use, maintenance and fit testing of respirators.

A description of the personal protective clothing to be used.

1. Initial asbestos/demolition notifications shall be prepared by the Contractor as provided below when the quantity of RACM involved is determined to be at least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or at least one cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously.
2. Contractor shall use the most current revision of the DSHS APB #5. The APB #5 notification form is available from the DSHS website address. (Reference <https://www.dshs.texas.gov/asbestos/pdf/AsbestosNotifcationForm.pdf> )
3. For projects performed at Pantex, certain specific information shall be provided on the form as follows:
	1. On Page 1 of the form “Facility Information” Section 2, the type of facility selected should be marked as “Federal.”
	2. On Page 1 of the form “Facility Information” Section 3, one of the following will be used to identify prior use/future use:

###### Office building/area (also describes training, break rooms).

###### Storage building/areas (also used for warehouses).

###### Manufacturing.

###### Passage (to be used for ramps, and similar structures).

###### Support facility (used for any other type of structure).

* 1. On Page 2 of the form “Project Information”, Section A, assure a project name following “U.S. DOE/NNSA/NPO” is provided (e.g., “12-9 Ramp Roof”).
	2. Prior to submitting the completed notification to CNS Pantex, the Contractor shall obtain concurrence from CNS Pantex of any asbestos waste transporter or disposal facility proposed on the notification form other than BFI (Allied Waste) in Canyon, Texas.
	3. The Contractor shall complete the remainder of the form per the template as provided in the APB #5 notification form Instruction Guide published by the DSHS. The Instruction Guide is available from the DSHS website address. (Reference <https://www.dshs.texas.gov/asbestos/pdf/AsbestosNotificationInstructionGuide.pdf>).

**NOTE: Use 30 days unless the project is to be accelerated.**

* 1. The APB #5 form shall be filled out and submitted to CNS Pantex for review at least \_\_\_\_\_working days prior to the planned start of demolition or asbestos abatement activity.
1. With the concurrence of the CNS ECD, the Contractor may utilize the DSHS’s electronic notification <https://vo.ras.dshs.state.tx.us/datamart/login.do;jsessionid=y0UJBzcewrlNQgqpHNQJel1VwOwehJyYCfqgSj95.i-0d34cb9f4d8e5606c> to make this notification. The Contractor will use the information provided on the ECD-approved DSHS APB#5 form to make this notification, and will provide the Project Records Coordinator with the electronic record of this registration, including all information that would have been provided by submittal of the DSHS APB #5 form.

h. CNS Pantex approval is required prior to the start of demolition or asbestos abatement activity.

1. Payment of DSHS notification invoice:
2. Contractor shall make direct payment to the DSHS through its on-line function, and provide a complete record of the submittal (i.e., pdf of the DSHS verification of payment showing the invoice number) to the CNS Project Records Coordinator within five (5) days of making the payment.
3. Contractor may meet the requirement of paragraph (a) by making the direct payment by submittal of a check to the DSHS. A complete record showing payment (i.e., copy of check, invoice, DSHS-signed registered mail receipt) shall be provided to the CNS Project Records Coordinator within ten (10) working days of making the payment.
4. When required, amended APB#5 notification form(s) or amended electronic notification, shall be submitted by the Contractor as identified below.

An amended APB#5 notification form, or amended electronic notification shall be submitted to the DSHS in certain situations (e.g., changes in project schedule and other specified changes in project activities that differ from representations provided in the original or subsequent notifications to the DSHS). All information provided in a APB#5 notification form is enforceable; thus, amended APB#5 notification forms are required to be submitted whenever the project experiences:

1. A change in NESHAP-trained Project Supervisor or Abatement Contractor.
2. A change in the starting or ending date of either abatement or demolition.
3. A change occurs in the work/emission control practices being used.
4. A change occurs in the amount or category of Asbestos Containing Material (ACM) waste being generated (applicable regulations exclude the need to notify when the change amounts to less than 20 percent of the original projections).

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| **NOTE** |
| If the Contractor proposes to change either the Waste Transporter or the Waste Disposal Facility, the Contractor Waste Management Plan must first be modified and approved by CNS Pantex Waste Operations Department. |

1. The waste transporter is changed.
2. The proposed disposal facility is changed.

Changes, as identified below, trigger time sensitive requirements.

1. Start-date change to later date or changes in information other than those discussed in subsections b., c., or d. below. The Contractor is allowed to prepare/submit amended notifications directly to the appropriate DSHS office, provided that the Contractor:

###### Provides a written or electronic amended notice of the new start date to the DSHS Asbestos Program Branch as soon as possible before, but no later than the original start date. Delivery of the updated notice by the United States Postal Service, commercial delivery service, or hand delivery is acceptable. An emailed courtesy copy to the Regional Inspector is recommended.

###### Provides a copy of the amended notification to the CNS Project Records Coordinator. This documentation must be provided to CNS Pantex no later than five (5) working days after making the notification.

###### Provides hardcopy verification to the CNS Project Records Coordinator that the amended notification was delivered to the DSHS office (e.g., copy of the registered mail delivery receipt or similar verification that an original signature notification was provided to the DSHS). This documentation must be provided to CNS Pantex no later than five (5) working days after receiving verification of delivery.

1. Abatement/demolition/renovation will begin on a date earlier than the date contained in the original or subsequently amended notice. The Contractor is allowed to prepare/submit amended notifications directly to the appropriate DSHS office, provided that the Contractor:
2. Provides a written or electronic notice of the new start date to the DSHS Asbestos Program Branch at least ten (10) working days before the start of work. Delivery of the updated notice by the United States Postal Service, commercial delivery service, or hand delivery is acceptable. An emailed courtesy copy to the Regional Inspector is recommended.
3. Provides a copy of the amended notification to the CNS Project Records Coordinator. This documentation must be provided to CNS Pantex no later than five (5) working days after making the notification.
4. Provides hardcopy verification to the CNS Project Records Coordinator that the amended notification was delivered to the DSHS office (e.g., copy of the registered mail delivery receipt or similar verification that an original signature notification was provided to the DSHS). This documentation should be provided to CNS Pantex no later than five (5) working days after receiving verification of delivery.
5. Abatement/demolition/renovation will stop on a date that changes by more than one work day for each week (seven (7) calendar day period) for which the project was scheduled and notification submitted. The Contractor is allowed to submit amended notifications directly to the appropriate DSHS office, provided that the Contractor:
6. Provides a written or electronic notice of the new stop date to the DSHS Asbestos Program Branch as soon as possible before, but no later than the original stop date. Delivery of the updated notice by the United States Postal Service, commercial delivery service, or hand delivery is acceptable. An emailed courtesy copy to the Regional Inspector is recommended.
7. Provides a copy of the amended notification to the CNS Project Records Coordinator. This documentation should be provided by the Contractor to CNS Pantex no later than five (5) working days after providing the notification.
8. Provides hardcopy verification to the CNS Records Coordinator that the amended notification was delivered to the DSHS office (e.g., copy of the registered mail delivery receipt or similar verification that an original signature notification was provided to the DSHS). This documentation should be provided to CNS Pantex no later than five (5) working days after receiving verification of delivery.
9. Changes in NESHAP-trained Project supervisor or Contractor, work/emission control practices being used, waste transporter, or proposed disposal facility. The Contractor is allowed to submit amended notifications directly to the appropriate DSHS office, provided that the Contractor:
10. Obtains written approval from CNS Pantex prior to the change being made.
11. Provides a written or electronic amended notification to the DSHS Asbestos Program Branch prior to the change being implemented. Delivery of the updated notice by the United States Postal Service, commercial delivery service, or hand delivery is acceptable. An emailed courtesy copy to the Regional Inspector is recommended.
12. Provides a copy of the amended notification to the CNS Project Records Coordinator. This documentation should be provided to CNS Pantex no later than five (5) working days after providing the notification.
13. Provides hardcopy verification to the CNS Project Records Coordinator that the amended notification was delivered to the DSHS office (e.g., a copy of the registered mail delivery receipt, or similar verification that an original signature notification was provided to the DSHS). This documentation should be provided to CNS Pantex no later than five (5) working days after receiving verification of delivery.
	1. Execution of Asbestos Abatement

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| **CAUTION** |
| **Notify S&IH for evaluation prior to any disturbance, or conduct of any work on any PACM materials.** |

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| **NOTE** |
| All unmarked building materials including TSI are considered to be PACM.All areas must be walked down for potential hazards, identified on the PX‑6109 and processed accordingly. The identified area potential hazards that are to be disturbed (modified, cut, or removed) will be physically labeled and area hazard notifications will be posted prior to start of any work.The Final SOW document must accompany any developed Project Asbestos Abatement Plan and State of Texas notification as an initial submittal to S&IH for evaluation and approvals. |

* + 1. ACM will be removed in accordance with OSHA requirements in 29 CFR 1926.1101 and other applicable regulations.
		2. The removal methods selected shall minimize the release of asbestos fibers.
		3. Approved removal methods include:
			1. The use of vacuum cleaners equipped with High Efficiency Particulate Air (HEPA) filters to collect all debris and dust containing ACM.
			2. The use of wet methods during asbestos handling, mixing, removal, cutting, application, and clean‑up except where it is demonstrated that the use of wet methods are infeasible.
		4. ACM shall be promptly placed in sealed containers.
		5. Access to abatement areas must be limited to authorized personnel.
		6. Warning signs shall be posted at each location (entrance) where airborne concentrations of asbestos may be in excess of the 0.1 f/cc permissible exposure limit or the excursion limit of 1 f/cc as averaged over a sampling period of 30 minutes.
		7. Heating, Ventilation and Cooling (HVAC) systems supplying the work area shall be shut down and isolated to prevent the spread of asbestos fibers throughout the building.
		8. The Contractor shall generate, maintain and provide to CNS Pantex at project completion, records sufficient to demonstrate that the amount of RACM generated is consistent with the amount estimated at the beginning of the abatement work, or reported pursuant to amended notifications, as appropriate.
	1. Monitoring of Asbestos Abatement

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| **CAUTION** |
| **Notify S&IH for evaluation prior to any disturbance, or conduct of any work on any PACM materials.**  |

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| **NOTE** |
| * All unmarked building materials including Thermal System Insulation (TSI) are considered to be PACM.
* All areas must be walked down for potential hazards, identified on the PX‑6109 and processed accordingly. The identified area potential hazards that are to be disturbed (modified, cut, or removed) will be physically labeled and area hazard notifications will be posted prior to start of any work.
* **A laboratory certified by American Industrial Hygiene Association (AIHA) for airborne asbestos analysis or a state certified asbestos laboratory is preferred.**
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* + 1. The air monitoring and laboratory Contractor shall be independent of the abatement Contractor.
		2. Evidence shall be provided to show all monitoring and laboratory personnel have successfully completed National Institute of Occupational Safety and Health (NIOSH) Course 582 (or equivalent).
		3. The monitoring and laboratory Contractor shall have a quality control program, which at a minimum meets OSHA requirements in 29 CFR 1926.1101 Appendix A.
		4. The monitoring Contractor shall provide a reference of the sampling and analysis method number used for personal, area and clearance samples. Sampling and analysis shall be done in accordance with 29 CFR 1926.1101.
		5. Monitoring data, including clearance sampling, shall be provided as it becomes available. Clearance levels after clean‑up must be at or below the clearance level of 0.01 f/cc.
	1. Accountability and Emergency Preparedness
1. Contractor shall provide a daily attendance roster to the Logistics Coordinator. The roster shall identify the names of all Contractor employees, including sub-tiers that are present for work at Pantex. The daily roster shall be provided no later than 90 minutes after the designated shift start time.
	1. Evacuation of the Work Area
		1. Contractor shall observe and participate in notices to evacuate the work area. The evacuation notices may be a drill or actual event. Contractor employees shall proceed to their designated assembly area. The Contractor and the STR may use SPOs, radio, phone, or other means to provide the Logistics Coordinator verification of personnel accountability. No personnel re-entry will be allowed until the emergency conditions have been corrected or controlled, the potential hazards reassessed, and needed actions implemented.
		2. Before evacuating the work area, shut down or make safe equipment or processes, which could become a safety or fire hazard if left unattended, unless doing so endangers personnel.
	2. Equipment and Tools
		1. Tools and equipment brought onto the site shall be used only for the purpose for which they are designed. Tools and equipment shall be inspected, and determined (or certified, such as lifting slings) to be adequate for the use intended. Routine inspections shall be conducted by the Contractor to assure needed repairs and maintenance are completed. Defective or otherwise unsafe equipment shall be immediately removed from the service and segregated or disabled to prevent inadvertent use.
		2. The Contractor shall maintain comprehensive records documenting all structural changes or corrected structural damage for oncoming drilling rigs. These records shall be kept up to date and made available to CNS Pantex upon request. The records shall also document that qualified personnel, as appropriate, completed modifications to the drilling rig (e.g., use of a certified welder).
	3. Lead Abatement

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| **NOTE** |
| * Prior to an approved AHA, walk-downs will be documented on the PX-6109. Any additional reviews, discovery of unidentified material/hazards, changed field conditions, project changes, or design changes involving construction project walk-downs will be documented and tracked using the PX-6109.
* The identified area potential hazards that are to be disturbed (modified, cut, or removed) will be physically labeled and area hazard notifications will be posted prior to start of any work.
* A lead abatement plan is not required if the lead contamination is from lead based paint and the items are to be removed or minimally disturbed. Controls for lead based paint must be covered in the project Activity Hazard Analysis if an abatement plan is not required.
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* + 1. The Contractor shall designate a lead abatement supervisor for any lead abatement operations. The Supervisor shall have attended a Texas Department of Health (TDH) approved 32‑hour Lead Abatement Supervisory Course. A certification of completion shall be provided to CNS Pantex.
		2. Personnel performing lead abatement operations shall have attended a TDH approved 16-hour lead abatement workers course. Documentation of this training shall be provided to CNS Pantex.
		3. The Contractor shall submit a lead abatement plan for approval prior to commencing abatement operations. The abatement plan shall include:
			1. Exact locations where the lead abatement will be performed.
			2. A description of what will be abated, including the type of surfaces to be abated.
			3. An estimate of the surface area to be abated.
			4. The method of abatement.
			5. Description of the controls that will be used to prevent the spread of dust to adjacent work areas.
			6. Monitoring plan if monitoring is required.
			7. Plan for disposal.
			8. Description of the PPE that will be worn by abatement workers.
	1. Beryllium Operations

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| **NOTE** |
| * Prior to an approved AHA, walk-downs will be documented on the PX-6109. Any additional reviews, discovery of unidentified material/hazards, changed field conditions, project changes, or design changes involving construction project walk-downs will be documented and tracked using the PX-6109.
* The identified area potential hazards that are to be disturbed (modified, cut, or removed) will be identified, and as applicable, area hazard notifications will be posted prior to start of any work.
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* + 1. Contractor will apply DOE requirements of the 10 CFR 850.
		2. Contractor and personnel will attend a pre-job briefing performed by CNS Pantex S&IH.
		3. A Beryllium Work Permit (BWP) must be issued by CNS Pantex.
		4. Prior to beginning work, workers with the potential to be exposed must be offered the opportunity to participate in the Pantex Beryllium Medical Surveillance Program and be offered the Lymphocyte Proliferation Test (LPT) (blood test). CNS Pantex Operational Medicine Department will direct the requirements for the medical surveillance.
		5. Contractor supervision and personnel performing beryllium operations will be required to attend the CNS Pantex course, Beryllium Workers Training (Course 25.11). Typical duration of the course is 4 hours.
		6. Contractor will support monitoring activities by CNS Pantex S&IH Department.
		7. Contractor shall provide PPE as required.
		8. Contractor’s respirator program must meet OSHA 29 CFR 1910.134.
		9. Contractor shall dispose of beryllium containing waste and beryllium-contaminated equipment per 10 CFR 850.31.
	1. Crystalline Silica

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| **NOTE** |
| * Prior to an approved AHA, walk-downs will be documented on the PX-6109. Any additional reviews, discovery of unidentified material/hazards, changed field conditions, project changes, or design changes involving construction project walk-downs will be documented and tracked using the PX-6109.
* The identified area potential hazards that are to be disturbed (modified, cut, or removed) will be identified, and as applicable, area hazard notifications will be posted prior to start of any work.
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1. The Final SOW document must accompany any developed Exposure Control Plan as an initial submittal to S&IH for evaluation and approvals. An exposure control plan shall be submitted by the Contractor for CNS Pantex review at least 10 working days prior to disturbing any silica containing building material. The draft exposure control plan shall be project specific and provide:
	* + 1. A description of the tasks in the workplace that involve exposure to respirable crystalline silica.
			2. A description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to respirable crystalline silica for each task.
			3. A description of the housekeeping measures used to limit employee exposure to respirable crystalline silica.
			4. A description of the procedures used to restrict access to work areas, when necessary, to minimize the number of employees exposed to respirable crystalline silica and their level of exposure, including exposures generated by other employers or sole proprietors.
			5. Proof the personnel are currently certified by a physician or other licensed health care professional to wear respiratory protection and work with crystalline silica.
			6. Evidence of current respiratory fit testing for all employees utilizing respiratory protection. The fit test shall meet the requirements of OSHA requirements 29 CFR 1926.1153 and 29 CFR 1910.134.
			7. A description of the respiratory protection program including the selection, use, maintenance and fit testing of respirators.
			8. The name and address of the air monitoring contractor and laboratory, if applicable.
			9. A description of the personal protective clothing to be used.
			10. Proof of training completion in accordance to 29 CFR 1926.1153.
			11. The name of the competent silica person who will make ensure the implementation of the written exposure control plan.

**Execution of Silica Work**

1. Silica work will be performed in accordance with DOE 10 CFR 851, OSHA requirements in 29 CFR 1926.1153, 29 CFR 1910.1053, and other applicable regulations.
2. 10 CFR 851.23 states the contractor must follow the TLVs listed in the 2016 edition of ACGIH. This lowers the 8-hour exposure limit from 50 µg/m3 to 25 µg/m3. This prevents the contractor from utilizing 1926.1153 table 1 as the sole means of controlling exposure. Monitoring must be performed if the TLV is reasonably anticipated to be exceeded or if the table below cannot be followed.

The methods selected shall minimize the exposure to crystalline silica and dust creation. Reference section 1.56.D for engineering controls and respiratory protection callouts.

* + - 1. When following section 1.56.D, at a minimum:
				1. Indoor and enclosed areas must have an adequate means of exhaust to minimize the accumulation of airborne dust.
				2. For tasks using wet methods, water must be used at sufficient flow rates to minimize the release of visible dust.

3. Dry sweeping, dry brushing, and compressed air are prohibited, unless it would otherwise create a greater hazard to the worker.

4. Enclosed cabs and booths must:

* + - * 1. Be maintained as free as practicable from settled dust.
				2. Have working door seals and door closing mechanisms.
				3. Have all other seals and gaskets are in good condition.
				4. Be under positive pressure through continuous delivery of fresh air.
				5. Have intake air filtered through a filter that is 95% efficient in the 0.3 -10.0 µg range.
				6. Have heating and cooling capabilities.
1. Access to silica work areas must be limited to authorized personnel. Contractors shall establish a regulated area wherever an employee’s exposure to airborne concentrations of silica is, or can reasonably be expected to be in excess of 25 µg/m3.
2. Warning signs shall be posted at each location (entrance) to the regulated area. See PX-6332. Beginning June 23, 2018, signs must have the following:

DANGER
RESPIRABLE CRYSTALLINE SILICA
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
WEAR RESPIRATORY PROTECTION IN THIS AREA
AUTHORIZED PERSONNEL ONLY

1. HVAC systems supplying the work area shall be shut down and isolated, as needed, to prevent the spread of dust throughout the building.
2. The following table is based upon Table 1 of 29 CFR 1926.1153. OSHA performed studies and sampling in order to create Table 1 as a tool that would ensure employee exposure to crystalline silica was kept below an 8-hour TWA of 50 µg/m3. Thus, by following Table 1, an employer could ensure employee protection without the need for additional monitoring.

With the adoption of 2016 ACGIH TLV’s by DOE into 10 CFR 851 in January 2019, contractors could no longer rely upon Table 1 to protect against employee overexposures since the OEL established by the 2016 ACGIH guidance is 25 µg/m3. In order to maintain the use of Table 1, the following table was modified to increase respiratory protection requirements.

Changes were made as follows:

* Where no respiratory protection was required, a respirator with an APF of 10 is now required.
* Where respiratory protection with an APF of 10 was required, a respirator with an APF of 50 is now required.
* Where respiratory protection with an APF of 25 was required, a respirator with an APF of 1,000 is now required.

These changes will ensure that personnel following Appendix F maintain an 8-hour TWA exposure of less than 25 µg/m3.

Rationale:

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| --- | --- | --- | --- |
| **Previous Guidance** | **Previous Maximum Exposure** | **Updated Guidance** | **Updated Maximum Exposure** |
| No Respirator | ≤50 µg/m3 | APF 10 | ≤5 µg/m3 |
| APF 10 | ≤50 µg/m3 | APF 50 | ≤10 µg/m3 |
| APF 25 | ≤50 µg/m3 | APF 1,000 | ≤1.25 µg/m3 |

**Hand tools used for concrete disturbance, including but not limited to hammers, wedges, chisels, pry bars, etc. are not found in the following table. The Contractor must address the methods used to mitigate respirable crystalline silica dust when using these tools as well as respiratory protection requirements. Monitoring must either be provided or completed as hand tools are not included in the table and could produce elevated levels of respirable crystalline silica dust.**

| **Equipment/Task** | **Engineering and Work Practice Control Methods** | **Required Respiratory Protection and Minimum Assigned Protection Factor (APF)****NOTE: Respiratory protection is required when an APF is specified.** |
| --- | --- | --- |
| **≤ 4 hours/shift** | **> 4 hours/shift** |
| Stationary masonry saws  | Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer’s instructions to minimize dust emissions.  | APF 10 | APF 10 |
| Handheld power saws (any blade diameter)  | Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer’s instructions to minimize dust emissions. |  |  |
| When used outdoors.  | APF 10 | APF 50 |
| When used indoors or in an enclosed area. | APF 50 | APF 50 |
| Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)  | *For tasks performed outdoors only:* Use saw equipped with commercially available dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.  | APF 10 | APF 10 |
| Drivable saws  | *For tasks performed outdoors only:* Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.  | APF 10 | APF 10 |
| Walk-behind saws  | Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer’s instructions to minimize dust emissions. |  |  |
| When used outdoors.  | APF 10 | APF 10 |
| When used indoors or in an enclosed area. | APF 50 | APF 50 |
| Rig-mounted core saws or drills  | Use tool equipped with integrated water delivery system that supplies water to cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. | APF 10 | APF 10 |
| Handheld and stand-mounted drills (including impact and rotary hammer drills)  | Use drill equipped with commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes. | APF 10 | APF 10 |
| Dowel drilling rigs for concrete | *For tasks performed outdoors only:* Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes. | APF 50 | APF 50 |
| Vehicle-mounted drilling rigs for rock and concrete  | Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector,  | APF 10 | APF 10 |
| **OR . . .**Operate from within an enclosed cab and use water for dust suppression on drill bit. | APF 10 | APF 10 |
| Jackhammers and handheld powered chipping tools  | Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact.  |  |
| When used outdoors. | APF 10 | APF 50 |
| When used indoors or in an enclosed area. | APF 50 | APF 50 |
| **OR . . .**Use tool equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.  |  |
| When used outdoors.  | APF 10 | APF 50 |
| When used indoors or in an enclosed area. | APF 10 | APF 50 |
| Handheld grinders for mortar removal (i.e., tuckpointing)  | Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.  | APF 50 | APF 1,000 |
| Handheld grinders for uses other than mortar removal  | *For tasks performed outdoors only:* Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer’s instructions to minimize dust emissions. | APF 10 | APF 10 |
| **OR . . .**Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.   |  |
| When used outdoors. | APF 10 | APF 10 |
| When used indoors or in an enclosed area. | APF 10 | APF 50 |
| Walk-behind milling machines and floor grinders  | Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.  | APF 10 | APF 10 |
| **OR . . .**Use machine equipped with dust collection system recommended by the manufacturer. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes. | APF 10 | APF 10 |
| Small drivable milling machines (less than half-lane)  | Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.  | APF 10 | APF 10 |
| Large drivable milling machines (half-lane and larger)  | *For cuts of any depth on asphalt only:* Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions.  | APF 10 | APF 10 |
| For cuts of four inches in depth or less on any substrate: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions.  | APF 10 | APF 10 |
| **OR** . . . Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions. | APF 10 | APF 10 |
| Crushing machines  | Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points). Operate and maintain machine in accordance with manufacturer’s instructions to minimize dust emissions. Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.  | APF 10 | APF 10 |
| Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials  | Operate equipment from within an enclosed cab.  | APF 10 | APF 10 |
| When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.  | APF 10 | APF 10 |
| Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: demolishing, abrading, or fracturing silica-containing materials  | Apply water and/or dust suppressants as necessary to minimize dust emissions.  | APF 10 | APF 10 |
| **OR . . .**When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.  | APF 10 | APF 10 |

**Monitoring of Silica Operations**

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| **NOTE** |
| * Monitoring must be performed if the TLV is reasonably expected to be exceeded or if the table controls cannot be followed.
* Beginning June 23, 2018, contractor samples shall be evaluated by a laboratory that analyzes air samples for respirable crystalline silica in accordance with Appendix A in 29 CFR 1926.1153.
 |

1. The air monitoring and laboratory Contractor shall be independent of the sampling contractor.
2. The monitoring and laboratory Contractor shall have a quality control program, which at a minimum meets OSHA requirements in 29 CFR 1926.1153 Appendix A.
3. The monitoring Contractor shall provide a reference of the sampling and analysis method number used for personal and area samples. Sampling and analysis shall be done in accordance with 29 CFR 1926.1153.
4. Monitoring data shall be provided as it becomes available. Within 5 working days the contractor must notify affected employees either individually or may post the results in an appropriate location accessible to all affected employees.
5. The contractor must provide monitoring data to CNS as requested.
	1. Mercury Abatement

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| **NOTE** |
| * Prior to an approved AHA, walk-downs will be documented on the PX-6109. Any additional reviews, discovery of unidentified material/hazards, changed field conditions, project changes, or design changes involving construction project walk-downs will be documented and tracked using the PX-6109.
* The identified area potential hazards that are to be disturbed (modified, cut, or removed) will be physically labeled and area hazard notifications will be posted prior to start of any work.
* A mercury abatement plan is not required if items containing mercury are sealed and shall remain sealed during removal, i.e. thermostats. Fire system work and other areas where the mercury vapor is not contained during removal must be performed in accordance with an approved abatement plan. Controls for mercury must be covered in the project Activity Hazard Analysis if an abatement plan is not required.
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1. The Contractor must complete a Hazard Communication training specific to mercury.
2. A calibrated Jerome Mercury Meter must be used for area monitoring during and after the removal of the Mercury contamination to ensure that the area is <0.003 mg/m3. If readings come back at or above 0.003 mg/m3, further cleaning must be performed until the area is below 0.003 mg/m3.
3. A mercury vacuum must be present during abatement to clean spilt mercury.
4. The Contractor shall submit a mercury abatement plan for approval prior to commencing abatement operations. The mercury abatement plan shall include:
5. Exact locations where the mercury abatement will be performed.
6. A description of what will be abated, including the type of surfaces or items to be abated.
7. The method of abatement.
8. Description of the controls that will be used to prevent the spread of vapor to adjacent work areas.
9. A calibrated Jerome Mercury Meter will be used for area monitoring during and after the removal of the Mercury contamination to ensure that the area is <0.003 mg/m3. If readings come back at or above 0.003 mg/m3, further cleaning must be performed until the area is below 0.003 mg/m3.
10. Plan for disposal.
11. Description of the PPE that will be worn by mercury abatement workers.
12. Evidence of current respiratory fit testing for all abatement employees. The fit test shall meet the requirements of 29 CFR 1910.134.
13. Proof of completion of a Hazard Communication Training specific to mercury.
	1. References
14. Governing Documents

[https://pxweb.uad.pxplant.com/RMS/ReqFlowdown.jsp?docno=DIV-01500](https://webapps.cns.doe.gov/RMS/ReqFlowdown.jsp?docno=DIV-01500)

1. Authorizing Documents
* DIR-0001, “Roles and Responsibilities for the Management and Operation of Pantex Plant”
1. Related Documents
* 10 CFR 850, “Chronic Beryllium Disease Prevention Program”
* 10 CFR 851, “Worker Safety and Health Program”
* 29 CFR 1910, “Occupational Safety and Health Standards”
* 29 CFR 1926, “Safety and Health Regulations for Construction”
* 40 CFR 170, “Worker Protection Standard”
* 49 CFR 172, “Hazardous Material Table, Special Provisions, Hazardous Materials Communication, Emergency Response Information, Training Requirements, and Security Plans”
* 49 CFR 173, “Shippers – General Requirements for Shipment and Packagings”
* DOE-STD-1090, “Hoisting and Rigging”
* NFPA 1, “Fire Code”
* NFPA 10, “Standard for Portable Fire Extinguishers”
* NFPA 51B, “Standard for Fire Prevention During Welding, Cutting, and Other Hot Work”
* NFPA 70E, “Standard for Electrical Safety in the Workplace”
* NFPA 101, “Life Safety Code”
* NFPA 241, “Standard for Safeguarding Construction, Alteration, and Demolition Operations”
* OSHA §1926.201, “Safety and Health Regulations for Construction”
* WI [02.06.03.01.05](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APROVED&docType=WI&docNum=02.06.03.01.05), “Planning and Execution of Excavations and Penetrations”
1. Forms
2. Generated Forms
* [PX-665](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-665), “Utility Outage Worksheet”
* [PX-740](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-740), “Request for Installation, Modification, or Relocation of Electromagnetic Radiation Emitting Equipment”
* [PX-2872A](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-2872A), “Excavation/Penetration Permit (Assessment and Authorization)”
* [PX-3736](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-3736), “Record of Pesticide Application”
* [PX-4782](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-4782), “Lift Plan for Construction Contractor Crane Operations”
* [PX-4798](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-4798), “Contractor Activity Hazard Analysis/Safe Work Permit”
* [PX-5151](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-5151), “Fall Protection Plan for Construction Contractor Roofing/Elevated Work Activities”
* [PX-5253](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-5253), “Electrical Hazard/Risk Analysis”
* [PX-5394](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-5394), “Hot Work Permit”
* [PX-5668](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-5668), “CNS Pantex Activity Plan”
* [PX-6109](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-6109), “Construction Project Walk-Down”
* [PX-6332](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-6332), “Silica Danger Sign”
1. Related Forms
* DOE Form 5484.3, “Individual Accident/Incident Report”
* DOE Form 5484.4, “Tabulation of Injuries and Work Hours”
* DSHS Form APB #5, “Demolition/Renovation Notification”
1. Records
* Daily Attendance Roster, RS 50000690
* Daily Log, RS 50000032
* Daily Report, RS 50000032
* DOE Form 5484.3, “Individual Accident/Incident Report” RS 50000220
* DOE Form 5484.4, “Tabulation of Injuries and Work Hours” RS 50000220
* Interference Request, RS 50000332
* Permits, RS 50000032
* Pre-Operational Checklists, RS 50000196
* [PX-665](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-665), “Utility Outage Worksheet” RS50000522
* [PX-740](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-740), “Request for Installation, Modification, or Relocation of Electromagnetic Radiation Emitting Equipment” RS 50000119, RS 50000012
* [PX-2872A](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-2872A), “Excavation/Penetration Permit (Assessment and Authorization)” RS 50000032
* [PX-3736](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-3736), “Record of Pesticide Application” RS 50000497
* [PX-4782](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-4782), “Lift Plan for Construction Contractor Crane Operations” RS 50000032
* [PX-4798](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-4798), “Contractor Activity Hazard Analysis/Safe Work Permit” RS 50000032, RS 50000324
* [PX-5151](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-5151), “Fall Protection Plan for Construction Contractor Roofing/Elevated Work Activities” RS50000059
* [PX-5253](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-5253), “Electrical Hazard/Risk Analysis” RS 50000522
* [PX-5394](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-5394), “Hot Work Permit” RS 50000522
* [PX-5668](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-5668), “CNS Pantex Activity Plan” RS 50000032
* [PX-6109](https://webapps.cns.doe.gov/LinksMgr/linksMgr?docStatus=APPROVED&docType=PXFORM&docNum=PX-6109), “Construction Project Walk-Down” RS 50000032
* Tailgate Safety Meeting Documentation, RS 50000032
* DSHS Form APB #5, “Demolition/Renovation Notification” RS 50000533
	1. Exhibits

**NOTE: Use most current PX-Form in Product Data Management Link (PDMLink)**

* + - 1. Exhibit 1: Texas DSHS Form APB #5 (Contractor Completed Form)
			2. Exhibit 2: PX-665, “Utility Outage Worksheet”
			3. Exhibit 3: PX-740, “Request for Installation, Modification, or Relocation of Emergency Management Emitting Equipment”
			4. Exhibit 4: PX-2872A, “Excavation/Penetration Permit”
			5. Exhibit 5: PX-3736, “Record of Pesticide Application”
			6. Exhibit 6: PX-4782, “Lift Plan for Construction Contractor Crane Operations”
			7. Exhibit 7: PX-4798, “Contractor Activity Hazard Analysis/Safe Work Permit”
			8. Exhibit 8: PX-5394, “Hot Work Permit”
			9. Exhibit 9: PX-5253, “Electrical Hazard/Risk Analysis”
			10. Exhibit 10: PX-5151, “Fall Protection Plan for Construction Contractor Roofing/Elevated Work Activities”
			11. Exhibit 11: DOE Form 5484.4, “Tabulation of Injuries and Work Hours”
			12. Exhibit 12: PX-5668, “CNS Pantex Activity Plan”
			13. Exhibit 13: DOE Form 5484.3, “Individual Accident/Incident Report”
			14. Exhibit 14: PX-6109, “Construction Project Walk-Down”
			15. Exhibit 15: PX-6332, “Silica Danger Sign”

END OF SECTION 01500

EXHIBIT 1

Contractor Completed Form

Texas DSHS Form APB #5

EXHIBIT 2

PX-665, “Utility Outage Worksheet”

**USE MOST CURRENT ISSUE IN PDMLINK**

EXHIBIT 3

PX-740, “Request for Installation, Modification, or Relocation of Emergency Management Emitting Equipment”

**USE MOST CURRENT ISSUE IN PDMLINK**

EXHIBIT 4

PX-2872A, “Excavation/Penetration Permit”

**USE MOST CURRENT ISSUE IN PDMLINK**

EXHIBIT 5

PX-3736, “Record of Pesticide Application”

**USE MOST CURRENT ISSUE IN PDMLINK**

EXHIBIT 6

PX-4782, “Lift Plan for Construction Contractor Crane Operations”

**USE MOST CURRENT ISSUE IN PDMLINK**

EXHIBIT 7

PX-4798, “Contractor Activity Hazard Analysis/Safe Work Permit”

**USE MOST CURRENT ISSUE IN PDMLINK**

EXHIBIT 8

PX-5394, “Hot Work Permit”

**USE MOST CURRENT ISSUE IN PDMLINK**

EXHIBIT 9

PX-5253, “Electrical Hazard/Risk Analysis”

**USE MOST CURRENT ISSUE IN PDMLINK**

EXHIBIT 10

PX-5151, “Fall Protection Plan for Construction Contractor Roofing/Elevated Work Activities”

**USE MOST CURRENT ISSUE IN PDMLINK**

EXHIBIT 11

DOE Form 5484.4 Modified, “Tabulation

of Injuries and Work Hours”

EXHIBIT 12

PX-5668, “CNS Pantex Activity Plan”

**USE MOST CURRENT ISSUE IN PDMLINK**

EXHIBIT 13

DOE Form 5484.3 Modified, “Individual Accident / Incident Report”

EXHIBIT 14

PX-6109, “Construction Project Walk-Down”

**USE MOST CURRENT ISSUE IN PDMLINK**

EXHIBIT 15

PX-6332, “Silica Danger Sign”

**USE MOST CURRENT ISSUE IN PDMLINK**