

**SPECIAL
SAFETY, HEALTH AND SECURITY RULES
FOR
SUBCONTRACTOR ON-SITE SERVICES**

CH2M HILL BWXT West Valley, LLC (CHBWV)

1.0 INTRODUCTION

The following safety, health and security rules shall be met by the subcontractor during performance of work at the WVDP to ensure adequate protection of personnel, the public and the environment. The subcontractor is accountable for the safe performance of work under this subcontract and shall exercise a degree of care commensurate with the work and its associated hazards in accordance with the requirements specified herein.

2.0 DEFINITIONS

Chemical-Containing Item: Any chemical that can present a physical hazard or a health hazard OR any material that can emit a particulate during use (like grinding wheels).

Hazard Analyses: An evaluation of the work associated with each project phase to identify specific hazards to which worksite employees and other worksite personnel may potentially be exposed and identification of appropriate control measures.

HSPD-12 Credential: Required for more than 6 months of work at the WVDP in a lifetime.

Limited Area: The balance of the 3,350 acre site outside the security area and includes the parking areas.

Picture Badged Worker: An individual who has successfully completed CHBWV required training and therefore has received a picture identification badge allowing unescorted access within the security fence area of the WVDP site.

Non-Picture Badged Worker: An individual that does not have a CHBWV issued picture identification badge and therefore must be escorted by a picture badged individual within the security area.

Picture Badging: A procedure that results in the issuance of an identification badge which allows an individual unescorted access within the security area of the WVDP site. Picture Badging is required for any individual anticipated to be on the WVDP site for more than eighty (80) hours in any one (1) year period.

Security Area: The 200 acre security fenced area containing the former processing plant and associated facilities, enclosed by an eight foot high cyclone fence with personnel entry at the main gate.

CHBWV: CH2M HILL BWXT West Valley, LLC

WVDP: West Valley Demonstration Project

DOE: Department of Energy

DOE-WV Department of Energy - West Valley

OSHA: Occupational Safety and Health Administration

DOL: Department of Labor

Subcontractor: The builder or supplier of material, supplies or on-site services.

Subcontract Technical Representative (STR): The CHBWV designated representative responsible for oversight of subcontractor field work.

3.0 SAFETY MANAGEMENT SYSTEMS

3.1 Hazards Identification

3.1.1 Stopping work is a responsibility of all site workers.

- A. Site workers have the RIGHT and RESPONSIBILITY to STOP WORK if safety is being jeopardized.
- B. Work is STOPPED if it is outside the scope or limits of work documents, procedures, permits, or pre-job briefings.
- C. Supervisors and managers fully support each request to STOP WORK.
- D. Work does not proceed until the safety issue is resolved.
- E. There is no stigma, recrimination, or punishment for STOPPING WORK.
- F. WVDP-553, *Step Back Program*, describes the expectations for the CHBWV step back program.

Working safely is the critical step in assuring our workers are safe during their time on site. It is also critical to assuring schedule and financial commitments are met. Placing schedule ahead of the safety of our workers is not acceptable.

3.1.2 WV-935, *Management Expectations - Safety, Changing Conditions and Hazards, and Stopping Work*, reinforces management's expectations for safety, worker actions under changing conditions and hazards, and everyone's responsibility to stop work when conditions warrant.

Subcontractors shall be responsible for performing a hazard screen on their work activities. WV-921, *Hazards Identification and Analysis*, and Form WV-3909, *Activity Hazards Analysis*, shall be used to develop the subcontractor hazard screen.

3.1.3 Job Safety Analysis

Subcontractors required to submit their Safety Management System for CHBWV approval shall be responsible for performing Job Safety Analyses (JSA) for their work activities. The JSA shall use qualitative and/or quantitative techniques to pinpoint weaknesses in the design and operation of equipment that could lead to accidents or other process safety concerns. SHIP-108, *Job Safety Analysis*, describes the requirements for preparing and using JSAs at the WVDP.

3.2 Training

3.2.1 The subcontractor shall ensure that each employee entering the worksite has, through experience, training and where required, certification, the skills and knowledge necessary to safely perform his or her assigned tasks.

3.2.2 OSHA mandated training shall be completed by subcontractors based on the scope of the work to be performed in relation to specific hazard that may be encountered. Examples include but are not limited to: confined space entry, hearing conservation, scaffold user, lock and tag, or hazwoper. Required training and qualification needs must be pre-identified and training equivalencies granted or training conducted by CHBWV Training prior to any work being initiated.

3.2.3 The subcontractor shall ensure that each employee receives continued safety

and health briefings addressing the hazards associated with the work and the measures necessary to control or eliminate the hazards.

3.2.4 Each employee shall receive an initial safety and health orientation prior to performing any work at WVDP. A statement in the subcontractor's safety program shall include the requirement for all workers including lower tier subcontractor workers to read and sign a statement indicating they have read, understand and shall comply with WV-19012, or, when developed based on WV-19012, the approved subcontractor Safety and Health Program. A copy of the signed statement shall be retained on file by the subcontractor for review by CHBWV Safety upon request. The orientation shall address, as a minimum, the following points:

- A. Employee rights and responsibilities.
- B. Employer responsibilities.
- C. Use and maintenance of required personal protective equipment.
- D. Disciplinary procedures.
- E. Alcohol and drug abuse policy.
- F. First aid and medical facilities.
- G. General Project hazards and applicable policies and procedures for addressing those hazards.
- H. Hazard recognitions and procedures for reporting or correcting unsafe conditions or practices, including Stop Work.
- I. Procedures for reporting accidents and incidents.
- J. Fire prevention and control.
- K. Emergency response procedures to include local warning and evacuation systems.
- L. Hazard communication program.
- M. Access to employee exposure monitoring data and medical records.
- N. Location of and access to the approved Safety Program.
- O. Additional Procedures applicable to this project - Confined Space Procedures, Lockout/Tagout Procedures.

3.3 Work Controls

3.3.1 Industrial Work Permit (IWP)

A. The Industrial Work Permit is a tool utilized by CHBWV to review for hazards and control **physical** work performed on site. An IWP is required for all on site subcontractor work. Reference SHIP-201, *Industrial Work Permits*, for IWP instructions which include, but are not limited to:

1. Confined Space Entry
2. Burning, Welding, Grinding
3. Line Breaking
4. Electrical
5. Work on or immediately adjacent to asbestos/fiberglass insulation
6. Elevated Work
7. Crane Operations
8. Excavations
9. Hazardous Material Handling
10. Working Alone
11. Construction and Demolition Work
12. Powder actuated tools
13. Work with lead or lead containing materials (e.g. paint)
14. Other additional work not addressed in an initial IWP

NOTE: *PPE requirements at specific work locations that exceed minimum requirements will be dictated by the appropriate controls identified in work/hazard control documents, postings, Radiological Work Permits, Job Safety Analyses, and other documents.*

B. Preparation of an IWP begins with the job supervisor who identifies where and what is to be done. The IWP is filled in by the CHBWV Supervisor. Next, the Plant Systems Supervisor signs the IWP acknowledging that proper interface with plant operations has been obtained. The CHBWV safety specialist then reviews the IWP to evaluate the hazards, specify necessary personal protective equipment, and issue any appropriate precautionary remarks. The Industrial Safety and Health Services (IS&HS) Department shall review and sign the IWP for all work as specified in SHIP-201. Finally, the IWP is signed by each worker assigned to the job indicating that they have been briefed, are aware of the job hazards, and will comply with the IWP requirements for personal protective equipment and applicable precautions.

C. It is the responsibility of the STR in charge of the subcontractor to ensure that the subcontractor obtains this permit, as well as subsequent IWP's, for the types of work mentioned above which were not covered on the initial permit.

3.3.2 Identification Requirements

A. All subcontractor trailers on site shall have permanent signs placed on them stating: 1) Company Name, 2) Company Address, and 3) Company Phone Number. An additional sign shall be posted in the proximity of the

"Company" to read "In Case of Emergency Call" (designated individual) at (appropriate telephone number).

- B. All subcontractor vehicles are to have company names on them. This may be accomplished by use of magnetic signs or decals. Subcontractor vehicles that do not meet this criterion shall be restricted from site use.

3.4 Oversight

3.4.1 CHBWV will monitor the actual practices of the subcontractor to assure that applicable Safety and Health protection provisions are being fully complied with. Deficiencies will be brought to the attention of the subcontractor for his immediate remedial action. If corrections are not made, are inadequate, or any seriously unsafe conditions are observed, the job, or any part thereof, can be shut down by verbal order. Identifying job site hazards and pursuing their correction will reduce the chances for a related personal injury. Stopping unsafe actions/conditions has the most immediate potential for averting injury. If someone is seen committing an unsafe action or an unsafe condition is identified, actions must be taken to stop it immediately. The costs related to hazard abatement, downtime, and any necessary additional safety training, based on unsafe conditions or work practices, are the responsibility of the subcontractor. Work may resume only after being released by the Safety Department.

3.4.2 All formal actions taken to enforce subcontractor compliance with project safety and health requirements shall be fully documented by CHBWV Management. This documentation shall provide a description of the noncomplying work activity or condition, the methods, date and time of notification to the subcontractor, the subcontractor's response and a description of previous similar instance of noncompliance with purchase order safety and health requirements.

4.0 WORKER SAFETY

4.1 Signs and Barricades

4.1.1 Signs: Warning signs shall be placed to provide adequate warning of hazards to workers and the public. Signs shall be used to designate the required PPE for the work areas and shall be posted and visible to anyone approaching the area. Signs shall be promptly removed when the hazard no longer exists or upon completion of the work. Danger signs shall be used only when an immediate hazard exists. Caution signs shall be used to warn against unsafe practices.

4.1.2 Barricades: Barricades shall be used whenever a potential hazardous condition exists and shall serve as an obstruction to deter people or vehicles from the work areas. Rope or plastic tape shall be used to barricade the area. Yellow, or yellow and black colors are used to indicate the area as hazardous. When the need arises for a more permanent barricade, orange fencing or cross-bar road barricades can be used. Signs and Barricades shall be utilized per instructions in SHIP-110, *Signs and Barricades*.

4.2 Mobile Equipment and Operation

4.2.1 Motor Vehicle Operations

- A. All subcontractor personnel must have in their possession a valid vehicle operator license to drive on the WVDP site. Vehicle use on site shall comply with PROP-12, *Motor Vehicle Program*.

4.2.2 Identification Requirements

- A. All subcontractor trailers on site shall have permanent signs placed on them stating: 1) Company Name, 2) Company Address, and 3) Company Phone Number. An additional sign shall be posted in the proximity of the "Company" to read "In Case of Emergency Call" (designated individual) at (appropriate telephone number).
- B. All subcontractor vehicles are to have company names on them. This may be accomplished by use of magnetic signs or decals. Subcontractor vehicles that do not meet this criterion shall be restricted from site use.

4.2.3 Heavy Equipment

- A. Heavy Equipment - For the purpose of this Subpart "heavy equipment" includes all wheeled and all tracked equipment, intended primarily for the movement of other items, materials, earth, etc., and with a rated capacity of one ton or greater. Certain other construction type equipment, such as compaction machinery shall also be included. All heavy equipment operation shall be done in accordance with SHIP-217, *Heavy Equipment Safety*.
- B. Construction, Heavy Maintenance, Heavy Equipment and Demolition - Operators shall be properly trained and qualified for the equipment to be operated. Training and certification requirements for heavy and materials-handling equipment operators shall be as specified in WVDP-082, *DOE Hoisting and Rigging Manual*. Operators who drive vehicles or transport materials subject to DOT regulations shall meet all the requirements of those regulations. Records of their qualification shall be kept on file and available for CHBWV review.
- C. Lighter vehicles used primarily for the transportation of materials shall be subject to the same rules of safety.
- D. It is not the intent of this document to list detailed safety rules for all the different kinds of heavy equipment. However, the following specific requirements shall apply:
 - 1. Seat Belts - With the single exception of pieces of equipment designed for stand up operation, all equipment in this category shall be equipped with seat belts. Where feasible, equipment designed for stand up operation should be supplied with operator restraining devices. Equipment required to have seat belts shall only be operated with seat belts in use.
 - 2. Rollover Protection - With few exceptions listed in OSHA, all wheeled tractors and all crawler equipment shall be equipped with rollover protection in accordance with 29 CFR 1926.1001.
 - 3. Warning Devices - All earthmoving and construction type wheeled and crawler equipment shall have audible warning devices which will operate when the equipment is moving either forward (a loud horn), or backward (backup alarm).
 - 4. In order to protect employees working around heavy equipment, all members of the immediate work crew shall be required to wear highly visible, safety green, vests. The spotter or signalman will wear safety orange vests which will delineate this purpose. The vests will be worn continuously during the work evolution. The work crew is defined as anyone directly associated with the

work to be performed (i.e. rigger, laborer, safety observer, supervisor, etc.). No one other than the work crew should be in the immediate work area. Visitors shall contact the Supervisor if the need should arise for them to enter the immediate work area. The wearing of a highly visible vest is used in connection with other safe working practices to increase the safety of the employees. The conditions of this paragraph also apply to Hoisting and Rigging. If there is potential for the operator of any equipment to have their vision blocked for any reason, the use of a spotter is required. The spotter may be a subcontractor or CHBWV person as long as both they and the equipment operator have been briefed on DD479B (latest revision), Equipment Spotter Briefing. One key element of this briefing is that the operator must be able to see the spotter at all times in order to continue the equipment move. If the operator cannot see the spotter, the equipment operator must stop the vehicle immediately and not continue until the spotter is visible again.

5. Inspection - The operator of all heavy equipment shall perform a daily external inspection of the items related to the safe operation of the equipment (e.g., brakes, clutch, horn, lights, linkage, back-up alarms, steering, etc.). No record need be kept, but any deficiencies shall be reported to supervision. Defects which might affect safe operation shall be corrected before the machine is operated. In addition, all heavy equipment shall be visually inspected for fluid leaks (e.g. diesel fuel, oil, brake fluid, etc.) by the operator upon completion of specified tasks.
 6. All heavy equipment, except over-the-road vehicles, shall be periodically inspected by a qualified mechanic. The frequency shall not exceed six months or 120 hours of operating time, whichever comes first. In addition, any qualified operator may request an inspection at any time, usually because of exceptionally hard usage, unusual operating characteristics, etc. Records shall be kept of such inspections and associated maintenance.
 7. Over-the-road vehicles shall be inspected and maintained as required by New York State Motor Vehicle Code.
 8. All equipment falling into the category of "hoisting and rigging" shall be inspected, tested, and maintained as required by Paragraph 4.3 below.
- E. Maintenance - In addition to the maintenance and repair associated with the required inspections, heavy equipment shall be maintained according to the manufacturer's recommendations. Special attention shall be given to all safety aspects. Records shall be kept of these inspections and repairs.
- F. All vehicles carrying loads which obstruct the view of the operator shall be accompanied by a flag person(s) to warn pedestrians and guide the vehicle operator.

4.2.4 Construction and Industrial Vehicle and Mobile Equipment Safety

- A. The following rules for transporting riders by powered vehicles or other mobile equipment apply to all site personnel and organizations:

1. Personnel shall not ride on fork truck tines or in the buckets of front loaders.
 2. Personnel shall not ride in the cargo area of pickup or flat bed trucks.
 3. Passengers are not allowed to ride in or on single seat vehicles or equipment. If passenger seats have been provided by the manufacturer, they shall be utilized in accordance with their recommendations.
- B. The following requirements will apply for all extending boom lift trucks prior to commencing lifts over elevated objects such as fences, etc:
1. A "dry run" will be accomplished using the load to be lifted.
 2. Supervisor (Person In Charge) will be present to assure safety and risk free operations with no structural failure or tipping.
 3. Supervisor (Person In Charge) will be present for first load lowered over the elevated area to assure all safe conditions are met.
- C. Operations of construction and industrial vehicles and mobile equipment (such as mobile cranes) shall comply with OSHA and local requirements when operating near overhead electrical power lines. See WVDP-011, *WVDP Industrial Hygiene and Safety Manual* and SOP 00-38, *Administration of Hoisting and Rigging Activities* for local requirements.

4.3 Hoisting and Rigging

- 4.3.1 All lifting and rigging performed at WVDP will be done in accordance with the DOE Hoisting and Rigging Manual (WVDP-082) and local administrative controls specified in SOP 00-38.
- 4.3.2 All subcontractor provided mobile cranes and rigging accessories must undergo a functional test at the WVDP Site prior to initial use.
- 4.3.3 The subcontractor shall provide a certificate of performance of crane periodic inspection by a qualified person. All rigging accessories shall comply with applicable ASME standards and be properly identified (marked). Slings shall be provided with a certificate of proof test by the sling manufacturer or qualified person.
- 4.3.4 All subcontractor provided personnel lifting equipment (i.e. man lifts, scissor lifts) must be inspected and run through a functional test at the WVDP Site prior to initial use. The functional tests shall include testing the override switch located at ground level and the operator's control located in the basket. Periodic inspections shall be performed and documented in accordance with good work practice throughout the use of this equipment at the WVDP Site.
- 4.3.5 All lifting operations performed at WVDP must receive prior review and concurrence by a "designated leader". This person shall be responsible to review all aspects of all lifts. Procedures are not required for normal day-to-day lifting operations unless specified elsewhere in the purchase order documents. This review shall be in addition to the procedures and designated Persons in Charge (PIC) required for special identified lifts in the normal purchase order work scope.
- 4.3.6 All personnel acting as signalers during crane operations must be clearly identified to the crane operator by the use of one or more of the following:

Orange hat, orange gloves; and/or orange vest. Since there is a requirement that all personnel working in the vicinity of heavy equipment operations wear orange vests, an additional identifying hat or glove must be used by the signaler(s) for identification purposes. The requirement for the additional orange identifier may be waived by the CHBWV Supervisor for tightly controlled lifts. Additionally the orange rain coats used during inclement weather may be used in lieu of the orange vest.

- 4.3.7 Periodic inspections shall be performed of hoisting and rigging equipment with records made available for review by CHBWV Safety personnel. Additionally, frequent inspections of hoisting and rigging equipment shall be conducted by CHBWV Safety personnel to ensure compliance.
- 4.3.8 The following requirements will be strictly followed for lifts as required by WVDP-082.
- A. Designated Leaders/Person in Charge (PIC) shall verify that the area is kept clear of unnecessary materials prior to permitting any lifting activity.
 - B. The PIC shall determine the need to barricade the area in which the lift is taking place in order to prevent access by unauthorized persons.
 - C. PICs will closely monitor the need to evacuate all areas over which a load will be carried, including internal areas below the building roofs, before commencing any lifts.
 - D. Existing equipment shall be brought to an acceptable level of compliance as determined by an appropriate level by the work management subcontractor.
 - E. Prior to use at the WVDP, mobile cranes/boom trucks will be inspected and approved for operation by the appropriate work management subcontractor or those having overall responsibility for ordinary hoisting operations.
 - F. Equipment with discrepancies which may affect the safety of the operation shall not be allowed to operate at the WVDP.
 - G. Once mobile cranes, boom trucks and forklifts have left the control of the work management subcontractor and are then returned, they shall be reinspected prior to making a critical lift.
 - H. Subcontractors shall inspect all forklifts on a daily basis. The subcontractor shall utilize the CHBWV Daily Crane/Hoist Check Sheet from CHBWV=s SOP 15-56, *Inspecting Mechanized Hoisting Equipment* which will be provided by the CHBWV Supervisor.
- 4.3.9 The use of heavy equipment for hoisting and rigging activities is acceptable when the following conditions are met:
- A. All hoisting activities shall be in accordance with the manufacturer's recommendation for that specific piece of equipment. For example, some excavators have a load chart included in the operational manual.
 - B. Hooks, rings, attachment points used for hoisting and rigging shall be manufacturer installed. Any hook, ring or attachment point which is not manufacturer installed shall be in accordance with the manufacturer's recommendation and shall have a certification of proof testing available at the work site prior to use at WVDP.

4.3.10 Because safety is the number one priority at this site, and in an effort to assure the safety of all personnel working on this site, the following more stringent requirements **SHALL** apply:

- A. All Hoisting/Rigging Equipment or accessories existing on site shall be at all times, in compliance with WVDP-082 as determined by CHBWV IS&HS. Any piece of Hoisting/Rigging Equipment or accessories not found to be acceptable shall be immediately tagged UNSAFE and removed from site until such time as it is satisfactorily repaired or replaced.
- B. Prior to use on site, all Hoisting/Rigging Equipment or accessories shall be inspected and approved for operation by CHBWV=s IS&HS Department. Once any Hoisting equipment (Mechanical device used to lift a load, e.g. crane, forklift, etc.) leaves the WVDP site, upon its return, it shall be re-inspected and functionally tested prior to use.
- C. The inspection shall include, at a minimum, the criteria for initial inspection and load testing for the type of Hoisting Equipment, identified in the WVDP-082. The inspection shall include any additional inspection criteria deemed necessary by CHBWV IS&HS.
- D. All Rigging Equipment (including rigging accessories) used in conjunction with Hoisting Equipment to conduct a lift shall have a current inspection tag and shall be certified in writing by an approved independent testing agency prior to being used on-site.
- E. Inspection of all Rigging Equipment shall be conducted on-site for each subcontractor annually to the initial inspection and load testing requirements referred to above.
- F. All crane operators coming onto the WVDP site shall submit evidence of a negative drug test as required by WVDP-082. The drug screen shall be current with their crane operator's license.

4.4 Excavation and Trenching

Excavation, trenching, and shoring requirements shall be in accordance with the OSHA Construction Standard for Excavations, 29 CFR Part 1926, Subpart P and SHIP-220, *Excavations and Trenching*. Slopes on excavations and trenches will be no less than 1:1 (45 degrees). When excavations require shoring, the shoring design must be submitted to the CHBWV IS&HS for approval. Per OSHA regulations, shoring designs must be approved by a Professional Engineer. This approval must be obtained and submitted to CHBWV by Approval Request (AR) before the start of any excavation.

- 4.4.1 Prior to any digging, excavation or trenching at WVDP, an Underground Utility Review is required to be completed per WV-370, *Underground Utility Review Policy*. Subcontractors shall contact the STR to coordinate this review and to obtain a Radiological Work Permit (RWP).

NOTE: *Whenever the envelope of work expands beyond the parameters identified in the Underground Utility Review, another review must be completed prior to returning to work.*

4.4.2 Excavation and Trenching "Competent Persons" qualifications.

- A. All subcontractors engaged in excavation and trenching activities at WVDP shall designate a "competent person". This "Competent Person" shall be trained and qualified to conduct all daily excavation and trenching inspections required by 29 CFR 1926, Subpart P - **EXCAVATIONS**.

Documentation of qualifications and training of the designated "Competent Person(s)" shall be submitted to CHBWV for approval and shall contain as a minimum the following criteria.

1. Training/experience and knowledge of:
 - a. Soil analysis
 - b. Use of protective systems
 - c. Requirement of 29 CFR Part 1926, Subpart P.
 2. Capability of detecting:
 - a. Conditions that could result in cave-ins
 - b. Failure in protective systems
 - c. Other hazardous conditions, including those associated with confined spaces.
 3. Authority to take prompt corrective measures to eliminate existing and predictable hazards and to stop work when required.
- 4.4.3 Per OSHA Construction Standard 29 CFR Subpart P - **Excavation**, 1926.651(k) **inspections** - Inspections of all excavations shall be conducted daily when employee exposure can reasonably be expected. At WVDP the following inspection criteria will apply:
- A. All excavations shall be inspected daily by a designated competent person, regardless of the depth.
 - B. All excavations in excess of 5 feet in depth shall have the inspection documented, utilizing the attached **DAILY TRENCH AND EXCAVATION LOG**. While not specifically required it is highly recommended that this daily log be utilized for all daily inspections to provide evidence of daily inspections.
- 4.4.4 Barricades: Safety barricades are required for all open excavation sites and shall be:
- A. Offset a minimum of 6 feet, when possible.
 - B. Equipped with flashing lights when located in high traffic areas.
 - C. Constructed of horse and plank or fencing to physically isolate the area(s), and must be posted with a safety information sign.
 - D. Limited to personnel that have a need to be there and are wearing the proper personal protective equipment.
 - E. When employees or equipment are required or permitted to cross over excavations, walkways or bridges with standard guardrails shall be provided.
- 4.4.5 Underground Utilities: The following requirements shall apply when work on or near underground utilities exposed during excavations and construction operations.
- A. All underground utilities exposed are to be labeled immediately to identify the type of line or utility (e. g. gas, potable water, drain, etc.)
 - B. Each utility line shall be marked in such a manner to ensure that the line remains identified throughout the length of exposure.

- C. Each utility line shall be marked to indicate whether it is an active, non-active or an abandoned line or utility.
- D. Any utility discovered that cannot be immediately identified must be reviewed and classified before work can continue in that area. Review and classification of the unknown line shall be as directed by the STR. If any unknown conduit, wire, pipe, or process line is discovered, it shall be treated as containing energy or hazardous chemical until known otherwise.

4.5 Confined Space Entry

- 4.5.1 A confined space is a space that has one or more of the following characteristics: contains or has the potential to contain a hazardous atmosphere; contains material that has the potential to engulf an entrant; has walls that converge inward or floors that slope downward and taper into a smaller area which could trap or asphyxiate an entrant; or contains any other recognized safety or health hazard, such as unguarded machinery, exposed live wires, or heat stress.
- 4.5.2 SHIP-202, *Confined Space Entry* shall be followed by all subcontractors while doing work at WVDP per Section Jurisdiction, which requires compliance to both 29 CFR 1926 and 29 CFR 1910 OSHA Standards.
- 4.5.3 Subcontractors shall submit a plan for compliance with the standard for CHBWV review and approval via an Approval Request (AR). The Confined Space Entry Program shall specify how the subcontractor will meet each of the items discussed in the Confined Space Entry Standard, CFR 1910.146. Subcontractors are responsible for providing all personal protective equipment (except respirators) necessary for work in confined spaces. This includes, but is not limited to full body harnesses, lifelines, etc. CHBWV shall provide the rescue team for all confined spaces and shall supply necessary rescue equipment based on the confined space configuration. Additionally, subcontractors must provide a method of communication to summon rescue without the need for the attendant to leave the confined space area. This may be by the use of a radio or other equivalent means to allow notification of rescue in a timely manner without the attendant leaving their assigned area.
- 4.5.4 Subcontractors shall ensure necessary documented training is provided to all of their employees involved with confined space entry. Training for their employees involved with confined space entry is provided by CHBWV. This training is four hours in length and is offered twice monthly. When it becomes necessary for training to be conducted immediately, a training video is available for use as needed.
 - A. Examples of confined spaces include: manholes, storage tanks, process vessels, pits, trenches, vaults, ventilation ducts, underground utility tunnels, pipelines, and rooms with less than proper size openings for easy access and natural ventilation and with faulty or no mechanical ventilation.
 - B. It is the responsibility of the entry supervisor in charge of the confined space entry to take all necessary steps to protect employees working in confined spaces. He/she shall also ascertain that no known health or physical defects exist which may contribute to an employee's incapacitation while working in a confined space.
 - C. Conditions in a confined space shall be considered immediately hazardous to life until proven otherwise. Unexpected hazards may arise in such spaces, and escape or rescue of the occupant may be impaired to an extent that an accident could result in minor or major injury. Many

normally safe operations become hazardous in a confined space. Insufficient oxygen, toxic materials from known or unknown sources, the generation of flammable gases, and the release of inert gases are among the most common hazards. These conditions must be evaluated and appropriate monitoring or supplied air respiratory protection provided to ensure life safety.

- D. In the event that the CHBWV rescue team is activated to respond to an emergency, all confined space entry permits shall be terminated until such time the rescue is completed. Notification of a confined space rescue activation shall be accomplished through the "812" emergency all page system or by the STR.

4.6 Electrical Safety

4.6.1 Live Electrical Work - In addition to the requirements of OSHA, all work on or around electrical systems shall also comply with the following conditions:

- A. Except for troubleshooting, electrical work shall be done only on de-energized circuits. Specifically this means that panel boxes, distribution panels, etc., shall have power to them de-energized before work inside can proceed. This may be accomplished by either interrupting, locking and tagging power feed upstream at an MCC, or by opening the main switch on the panel box itself. For new installation or after troubleshooting has identified the need for electrical component repair or replace, the associated circuit must be de-energized. Working on live circuits can be done only when de-energizing would introduce additional hazards or is infeasible because of equipment design. All Electrical work shall be performed in compliance with 29 CFR 1910 Subpart L, NFPA 70 (NEC), NFPA 70E and local requirements specified in SHIP-218, *Electrical Safety* and SOP 00-11, *Troubleshooting and Maintenance of Electrical Equipment*.
- B. Live electrical work will be allowed for these conditions if:
 - 1. Prior notification is given to DOE and the appropriate safety department.
 - 2. Work is performed by a qualified journeyman or by an apprentice under the direct supervision of a qualified journeyman.
 - 3. The proper personal protective equipment and properly insulated tools are used per SOP 00-11 and NFPA 70E.
 - 4. An Industrial Work Permit is issued and a safety watcher is assigned.
 - 5. The CHBWV Supervisor responsible for the equipment, identifies and controls the work with the CHBWV Lock and Tag Procedure.

NOTE: *Care must be exercised by the subcontractor when attempting to work on pre-existing walls or floors which may contain electrical components and/or systems. Subcontractors shall determine positively that the immediate work area is free from live electrical sources before work begins.*

- C. Normal electrical systems troubleshooting that requires the system to be energized can be performed without a separate IWP for voltages up to 480 volts, so long as the requirements in 4.7.1.A. 2. and 3. above are met. In addition, circuits operating at 50 volts to ground or less do not need to

be de-energized.

- D. When an electrical box or panel, normally provided with a cover or door, contains energized components and is without a cover or door, an appropriate protective temporary cover of non-conductive material shall be placed over the open face of the box or panel. Insulating blankets are preferred. Cardboard shall not be used.

4.6.2 Electrical Power

- A. Power Distribution Boards - Power distribution boards, when used, shall be rated for the environment (i.e., weatherproof, etc.), of rugged construction, and shall be rated at 480 VAC with an amperage rating appropriate for the intended load. On large work sites, all boards shall have spare (150 feet maximum) power feed cable to allow for relocation as progress permits to keep extension cords to minimum length.
- B. Cords, Plugs, and Receptacles - Cords, plugs and receptacles are required to mate with the power boards and extension cords. Straight blade plugs, multi-head adapters, etc., are not authorized. Some exceptions for limited use on a per case basis may be authorized with an inspection by and approval of safety representative. All plugs, etc., will be dead front, phenolic or nylon with cord grip. All shall be UL listed and GFCI protective.
- C. Extension cords used for hand tools and temporary power shall be kept off floors and away from personnel and equipment traffic.
- D. Particular attention shall be paid to the safety of electrical equipment. At the worksite ground fault circuit interruption (GFCI) devices shall be required at all locations. In no case shall feeders from a subcontractor's temporary power panel be connected without adequate protection.
- E. Portable Electrical Equipment, Cords, GFCI's
 1. Portable electric tools shall have been listed by Underwriter's Laboratories (UL) or approved by an equivalent recognized testing agency. Tools shall be inspected no less than semi-annually by competently trained personnel. Each tool shall be marked so that the date of last test can be determined.
 2. Trouble lamps of the non-grounded, double insulated type, where not otherwise restricted, may be used if the lamp guards are of non-conducting material. Conducting lamp guards, even if covered with insulation material, shall be grounded.
 3. GFCI protection shall be provided for all single phase circuits supplying grounded electrical power.
 4. GFCI protection shall be used on all portable electrical tools.
 5. Portable GFCI's shall be trip tested by the user each day before use to assure that the device is functional.
 6. Portable GFCI's shall be ground current trip tested at 5 ma (+/- ma) upon receipt and at six month intervals thereafter. Each device shall be marked or tagged to indicate the date of the last test.

4.6.1 Training and Qualifications

Subcontractor line management shall be responsible for providing formal training and qualification documentation for all electrical workers (Apprentices and Journeymen) and line workers before they are permitted to perform electrical work, including NFPA 70E and site specific briefings as appropriate

4.6.2 Subsurface Investigation

Care must be exercised by the subcontractor when attempting to work on pre-existing walls or floors which may contain electrical components and/or systems. Subcontractors shall determine positively that the immediate work area is free from live electrical sources before work begins. Subsurface investigations shall be performed in accordance with SHIP-234, *Subsurface Investigations and Penetrations*.

4.7 Lock Out/Tag Out

4.7.1 The subcontractor's lock out/tag out procedure will be reviewed for conformance with the SOP 00-04, *Lock, Tag and Confirm Procedure*. This procedure shall be incorporated into the Subcontractor's Safety Program before any work begins.

4.7.2 All subcontractors shall submit within their lock out/tag out procedure the following, as a minimum:

- A. The procedure shall identify the need for a lock out/tagout log, and shall include what the log will be used for, how to make entries, and where it will be located. The log shall include as a minimum, the information contained on both sides of the tagging device and shall indicate date of application and removal of the lock out tag out devices. The need for periodic (monthly) audits shall be included in this procedure.
- B. The procedure shall require that all locks and tags have a unique control number.
- C. The procedure shall include the criteria for independent verification by an employee other than the individual who placed the LO/TO device. This independent verification will ensure that systems/equipment are properly neutralized before the start of any work on that system/equipment.
- D. The procedures shall require that all tagging devices being used will contain the following information:
 - 1. Lock and Control Number
 - 2. Signature of person placing tag
 - 3. Printed name of person placing tag
 - 4. Date tag was applied
 - 5. The printed name of the company
 - 6. Location of energy isolating device being locked out
 - 7. Position of switch/valve (i.e. off/on/closed/open)
 - 8. Reason the equipment is being locked out
 - 9. Machine/Equipment ID Number
- E. The following statements shall be included within the body of the lock out/tag out procedure:

1. All existing CHBWV owned equipment/systems that are in service and that require work by a Subcontractor shall be isolated and locked out of service by the CHBWV Operations department/equipment owner before turnover to them. Subcontractors shall, in turn, apply their lock and tag devices prior to commencing any work or service. When the system is to be returned to normal operating status the reverse will be applied by the subcontractor removing their lock and tag first followed by the system or equipment owner removing their lock and tag. This will be accomplished by completing and submitting the Lock and Tag Request Form at least 24 hours prior to start of work. The cognizant CHBWV Supervisor shall serve as coordinator between the subcontractors and CHBWV Operations department/equipment owner to assure that lock and tag operations are completed in accordance with this procedure.
2. When a tagout device is used on an energy-isolating device that is not capable of being locked-out, the tagout device shall be attached at the same location that the lockout device would have been attached and additional means provided to obtain the equivalent safety of a lockout device. Additional means include but are not limited to, removal of an isolating circuit element, blocking a controlling switch, opening an extra disconnecting device, or the removal of a valve handle to prevent inadvertent energizing.
3. Lockout devices and tagout devices shall be singularly identified; shall be the only devices used for controlling energy; shall not be used for other purposes; and shall meet the following requirements:
 - a. Ensure the lockout device that is installed satisfies the lockout requirements and is adequate for its need.
 - b. Small circuit breakers, the type normally found in columns and adjacent to each other may be isolated using a breaker lockout device and tags only. Only small circuit breakers of the type may be isolated in this manner. Main panel breaker must still be locked out for work in a panel. Large circuit breakers require installed lockout hardware.
 - c. Lockout and tagout devices shall be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected. For example tags, which do not melt when exposed to high temperatures.
 - d. Tagout devices shall be constructed and printed so that exposure to weather conditions or to wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible.
 - e. Lockout devices shall be substantial enough to prevent removal without the use of excessive force or unusual techniques, such as bolt cutters or other metal cutting tools. Locking devices shall be installed in such a manner as to prevent a valve/switch from being opened due to manipulation of the locking device.

- f. Tagout devices, including their means of attachment, shall be substantial enough to prevent inadvertent or accidental removal. The tagout device's means of attachment shall be non-reusable, attachable by hand, self-locking, releasable only with a minimum unlocking strength of no less than 50 pounds, and have the general design and basic characteristics of being at least equivalent to a one-piece, all-environment-tolerant nylon cable tie.
- g. Tagout devices shall warn against hazardous conditions if the machine or equipment is energized and shall include a legend. For example: DO NOT OPERATE or DO NOT START or DO NOT OPEN or DO NOT CLOSE.
- h. Lockout and tagout devices used by workers for their personal protection (not operations lockouts and tagouts) shall indicate the identity of the employee applying device(s).

F. All lockout and tagout devices shall be standardized within the facility in at least one of the following criteria: color, shape or size. Subcontractors shall submit description of both locks and tags being used at WVDP.

NOTE: *Only CHBWV shall use locks which are colored solid red, yellow and blue. Subcontractors may utilize locks of any other color for identification purposes.*

G. All employees shall be trained on the CHBWV lock and tag protocol before implementing a lock and tag procedure. This training shall be provided by the CHBWV Training Department.

4.8 Compressed Gas Cylinders

- 4.8.1 Only the proper transport, storage, and use of compressed gas cylinders is authorized. Subcontractors shall follow the requirements of SHIP-215, *Compressed Gas Cylinders*.
- 4.8.2 Compressed gas cylinders will be clearly labeled as to contents and storage facilities shall be of noncombustible construction. Compressed gas cylinders shall be protected from local traffic and material handling equipment. Cylinders stored out-of-doors shall be protected from weather to prevent overheating and icing. Minimum protection shall be an all weather non-combustible floor and roof.
- 4.8.3 When stored, combustible gas cylinders must be separated from oxidizing agents by at least 20 feet distance or by 30 minute fire rated barrier walls.
- 4.8.4 Signs on cylinder storage racks shall identify contents of cylinders and whether full or empty.
- 4.8.5 On welding carts and manifolds, the regulators on both acetylene and oxygen cylinders shall have reverse gas flow prevention in the event of a back-flash. Fusible, hydraulic or mechanical types are acceptable. Regulators shall be shut off at the end of each shift and removed from cylinders before weekends or for like periods when they will not be used.
- 4.8.6 Full cylinders may be transported only in an upright position with adequate bracing to prevent falling. Transport of cylinders by crane shall utilize a load tested rig.

- 4.8.7 Cylinders (regardless of size) whether in use, in storage, or in transit shall be fastened securely by a chain, rigid retaining bar, or other approved strapping devices (i.e. nylon strapping) to prevent cylinders from falling or being knocked over. All flammable cylinders must be retained by non-combustible means.
- 4.8.8 Vendor's cylinders which do not comply with minimum OSHA standards shall not be issued for use but shall be returned to the vendor.
 - A. Compressed air for cleaning shall not exceed 30 psi. Nozzles must be of the air cone chip guard type.

4.9 Powder Actuated tools

- 4.9.1 Stud guns, powder actuated, and powder assisted industrial tools must be designed and equipped to prevent free flight of any projectile. These tools shall be used in accordance with the requirements of American National Standard Safety Requirements for Powder Actuated Fastening Systems, ANSI A10.3. An Industrial Work Permit is required for the use of these tools.
- 4.9.2 The subcontractor's safety program must include specific annual training of each operator in all aspects of powder tools. A valid certificate of competence (valid for one year) must be in each operator's possession, prior to operating powder actuated tools. Records of training and certification must be maintained by the subcontractor.

4.10 Working Alone

Many operations in industry require only one person to perform a required function. This can sometimes lead to a hazardous situation if the person becomes injured in such manner that he is unable to obtain help, there is no one present to help, or if help is too far away. It is the responsibility of the CHBWV STR to contact IS&HS, who shall determine whether or not there are any identifiable safety hazards in which the probability of an accident occurring is sufficient to warrant the presence of more than one person. When working in isolated areas, a means for maintaining contact with personnel will be established.

4.11 Disturbance of Painted Surfaces

Subcontractors will have all painted surfaces surveyed for lead content by CHBWV before performing any work (cutting, sanding, burning, etc.) which has the potential to generate dust. If the paint has not been surveyed, it will be assumed that it is lead containing and all restrictions and postings as required by WVDP-195, *The Lead Management and Control Plan*, and SHIP-232, *Lead Assessment Program*, will be followed. An RWP may also be required depending on the location.

4.12 Chemical Safety

Subcontractors shall submit via an Approval Request, a detailed list of all chemical-containing items to be used during work at the WVDP, along with current and legible copies of Safety Data Sheets. Chemicals must be approved by CHBWV via Form WV-3718 prior to the subcontractor bringing them on site. The use of unapproved chemical-containing items is prohibited per the requirements of WV-988, *Employee "Right-To-Know" Program – Hazard Communication*. The STR maintains a Safety Data Sheet (SDS) file for the job.

4.13 Pedestrian Safety

Pedestrians shall obey all crosswalks and other markings. Where markings are not evident, pedestrians shall walk on the left of the road facing oncoming traffic and shall

cross the road at right angles. Pedestrians shall yield the right-of-way to vehicles.

4.14 Aviation Safety

All local or special mission flights such as aerial surveys, photography and special tours conducted by subcontracted aviation service shall meet the requirements set forth in DOE Order 440.2 Aviation and shall comply with all FAA requirements.

4.15 Medical Program

4.15.1 Medical Clearance Requirements For Subcontractors

- A. It is the Subcontractor's and STR's responsibility to determine what specific physical/ chemical/environmental exposures may be associated with the performance of the purchase order (i.e., heat stress, cold stress, noise, working with fall protection, hoisting/rigging, heavy equipment, use of respirator, chemicals, lead, working in confined spaces, etc.). The Subcontractor can then determine if their employees will need a physical examination or a "Health Assessment". Medical documentation is required if the Subcontractor is to be on-site for more than 40 hours a year or requests a picture badge (so that no escort is required).
- B. CHBWV does not provide physical examinations for Subcontractor personnel. CHBWV has developed a "Dear Physician" cover letter and "Physician's Report of Employee's Capabilities" (Form WV-1407), for Subcontractors to use as a guide for meeting the medical documentation requirements. Alternately, CHBWV will accept current medical documentation from the Subcontractor's medical representative as long as this documentation references the Code of Federal Regulation, OSHA, ANSI or other standard for which the medical examination was performed (i.e., asbestos, hearing protection, respirator use, lead, hazardous chemicals, vision examination for weld inspectors, etc.).
- C. CHBWV licensed medical provider personnel may conduct a Health Assessment for remaining Subcontractors who need a picture badge and their work activities do not require a more comprehensive examination. The Health Assessment involves a simple review of the person's self-reported current medical status, health history, as well as a blood pressure, pulse, conversational hearing and weight check. The Health Assessment is generally performed as part of General Employee Training (GET), but can be scheduled independently of GET by calling (716) 942-4630.
- D. CHBWV's licensed medical provider will notify the CHBWV STR of employee physical/psychological limitations (i.e., no lifting greater than 40 pounds, or no work in confined space, etc.).

4.16 Medical Assistance

- A. Any subcontractor who becomes injured or ill while working on-site must immediately notify his/her supervisor and report to the CHBWV Health Services office located in the Administration Building. If the injury occurs in a radiologically controlled area, Radiological Controls must be notified immediately at Ext. 4231.
- B. If the injury/illness occurs off shift, the Plant Systems Operations Supervisor (PSOS) must be notified immediately at Extension 4239.
- C. If a serious injury has occurred, the "All Page" system shall be activated by

dialing "812" and announce the type or nature of the medical emergency and location.

- D. Licensed medical provider will administer first aid and/or refer the subcontractor to his/her personal physician or another appropriate care facility, as indicated by the nature of the illness or injury. If referral is made on any off shift because of a work related injury or illness, the PSOS must be notified.
- E. CHBWV will request ambulance services if emergency transportation is required. This also includes notification of proper authorities regarding the incident. For a non-emergency situation, subcontractors shall provide the transportation.
- F. A Report of Occupational Injury or Illness will be initiated on all reportable incidents by IS&HS personnel during normal working hours. On off-shift, it is the responsibility of the PSOS to initiate the form.
- G. If the physician prohibits the subcontractor from returning to work immediately, the subcontractor must report this to the CHBWV licensed medical provider within one work day by calling 942-4630. The subcontractor upon returning to work must report to the CHBWV licensed medical provider with the following documentation from their personal physician:
 - 1. Diagnosis of injury/illness.
 - 2. Date first seen by their personal physician.
 - 3. Date the subcontractor may return to work.
 - 4. Any work restrictions issued and length of time of restriction.
- H. In some situations which will be determined by the CHBWV licensed medical provider, the subcontractor may be required to be seen by the CHBWV Occupational Health Physician for a second opinion.
- I. CHBWV's licensed medical provider will issue a Subcontractor Return to Work Release Form which provides a summary of the employee's ability to return to work based upon the physician's report. It is the subcontractor's responsibility to determine if work is available, based upon any limitation identified by the physician's report. Copies of the clearance will be given to the subcontractor's supervisor, the CHBWV STR, the IS&HS Department and the Procurement Department as needed. (See Subcontractors Return to Work Release Form.)
- J. If the subcontractor's employee is unable to return to work, the CHBWV licensed medical provider will notify the CHBWV Procurement Department, subcontractor's supervisor, CHBWV Supervisor, and CHBWV IS&HS Department. Additionally, the CHBWV Supervisor shall be kept updated on the disposition of employees who are unable to return to work due to an occupational injury or illness.
- K. An injury or illness (by the subcontractor) may require, as determined by CHBWV management, that an accident investigation be conducted. The subcontractor will be required to participate in the investigation to insure that the facts are clearly identified and corrective actions taken will prevent reoccurrence of the injury or illness.

5.0 **RADIOLOGICAL SAFETY**

5.1 Radiation Protection Standards

The following nuclear safety regulations and standards are applicable to the WVDP:

- 5.1.1 10 CFR 820, "Procedural Rules for DOE Nuclear Activities," latest revision, sets forth the procedures to govern the conduct of persons involved in DOE nuclear activities and, in particular, to achieve compliance with the DOE Nuclear Safety Requirements by all persons subject to those requirements.
- 5.1.2 10 CFR 830, "Nuclear Safety Management," latest revision, governs the conduct of the DOE management and operating contractors and other persons at DOE nuclear facilities.
- 5.1.3 10 CFR 835, "Occupational Radiation Protection," latest revision, establishes radiation protection standards, limits, and program requirements for protecting individuals from ionizing radiation resulting from the conduct of DOE activities.
- 5.1.4 WVDP-010, "WVDP Radiological Controls Manual," latest revision, establishes 10 CFR 835 and other DOE and CHBWV requirements for the radiation protection program.

5.2 Radiation Protection Program

- 5.2.1 The above standards set forth the procedures to implement the provisions of the Price-Anderson Amendments Act of 1988 (PAAA), which subjects DOE contractors and their suppliers and subcontractors to potential civil and criminal penalties for violations of DOE rules, regulations and orders relating to nuclear safety.
- 5.2.2 The Radiation Protection Program under 10 CFR 835 applies to all existing and/or anticipated operational tasks carried out on behalf of the DOE by CHBWV or its suppliers and subcontractors at the WVDP that have the potential to result in occupational exposure to ionizing radiation, exposure of minors and members of the public to ionizing radiation during direct on-site access at the WVDP, planned special exposures and emergency exposures, and exposures to the embryo/fetus of a declared pregnant worker. WVDP-010 establishes 10 CFR 835 and other DOE and CHBWV requirements for the radiation protection program.
- 5.2.3 No subcontractor shall take or cause to be taken any action inconsistent with the requirements of 10 CFR 835 or any program, plan, schedule, or other process established by 10 CFR 835. The rules in 10 CFR 835 establish radiation protection standards, limits, and program requirements for protecting individuals from ionizing radiation resulting from the conduct of DOE activities. DOE activities mean an activity taken for or by the DOE that has the potential to result in the occupational exposure of an individual to radiation or radioactive material. The activity may be, but is not limited to, design, construction, operation, or decommissioning.
- 5.2.4 The provisions of 10 CFR 835 are DOE nuclear safety requirements which, if violated, will provide the basis for the assessment of civil and criminal penalties under the Price-Anderson Amendments Act of 1988 and is enforced by DOE 10 CFR 820. Radiation Protection Program requirements are established in WVDP-010, *WVDP Radiological Controls Manual*. Nothing in 10 CFR 835 or WVDP-010 shall be construed as limiting actions that may be necessary to protect health and safety.

5.3 Radiological Work Permit Requirements

- 5.3.1 All entry, work or inspection in areas of the plant posted as radiologically controlled area because of potential radiation exposure is strictly prohibited

without an authorized RWP issued and signed by the responsible CHBWV representative.

NOTE: *All excavation, (any displacement of dirt/soil) no matter how slight, shall require a RWP before any work commences. This shall apply to any work being performed for CHBWV by all prime and lower tier subcontractors.*

5.3.2 All work performed within controlled areas shall be in accordance with the WV-19061, Radiological Work Requirements.

6.0 ENVIRONMENTAL SAFETY

6.1 Waste Disposal

The applicable federal, United States Environmental Protection Agency (EPA), and state New York Department of Environmental Conservation (NYSDEC) rules and regulations shall be followed at the WVDP site for all waste disposal. All wastes will be monitored by CHBWV Radiological Controls personnel prior to removal from any radiological controlled area. Disposal of combustible materials by burning is not permitted. All waste generated shall be minimized to the extent practical and be managed in accordance with applicable site procedures. The subcontractor shall take all possible precautions to utilize materials with the lowest toxicity wherever possible, and prevent spills or releases from occurring. In the situation where a spill or release does occur, notification must be made to the STR, area supervisor and PSOS. In emergency situations, immediate notifications can be made via the 812 All-Page System.

6.2 Liquid Waste

Placement of any liquid or liquid-containing wastes in the WVDP dumpsters, to the ground, to storm sewers, ditches, or to the site treatment facilities is prohibited. Liquids must be disposed in accordance with all applicable CHBWV procedures. Subcontractors shall immediately notify their CHBWV Supervisor or STR to initiate disposal requirements per the applicable CHBWV procedures.

6.3 Hazardous Material/Waste

6.3.1 Hazardous material/wastes are prohibited from disposal in WVDP trash containers, dumpsters, or rolloffs.

6.3.2 Subcontractor personnel generating hazardous materials/wastes on-site must manage their waste in accordance with applicable WVDP site procedures and are not permitted to transport any hazardous wastes off-site. The appropriate CHBWV Supervisor shall be notified of hazardous waste generation and CHBWV shall direct the disposition of such hazardous wastes.

6.3.3 Satellite Accumulations Areas (SAAs) are used for the routine collection of hazardous wastes at or near the point of generation. SAAs are only permitted under the direction of the CHBWV Waste Characterization and Shipping Team.

6.3.4 The subcontractor shall take all possible precautions to minimize the generation of any wastes, utilize materials with the lowest toxicity wherever possible, and prevent spills or releases from occurring. In the situation where a spill or release occurs, notification must be made to the STR and PSOS. In emergency situations, immediate notifications can be made via the 812 All-Page System.

6.3.5 The clean up of tools and/or equipment by the subcontractor using hazardous materials (e.g., solvents, petroleum products, etc.) shall be controlled. The subcontractor shall take precautions to prevent any spillage of the cleaning materials to the environment. Any rags, wipes or debris contaminated with

solvents, flammable or combustible waste must be disposed in accordance with applicable WVDP site procedures.

- 6.3.6 Responsibility for the clean up of any hazardous material/wastes spills or releases, which are caused by the subcontractor=s failure to comply with the above requirements, shall be borne by the subcontractor.
- 6.3.7 The following is a list of commonly used wastes that may be considered hazardous wastes upon disposal. Compliance with WVDP site procedures is essential, to ensure proper waste management and reduce the potential for harm to health, safety and the environment.

Paints	Pesticides, Herbicides, or Biocides
Solvents (i.e., paint thinner, xylene, toluene)	Medical Wastes (i.e., contaminated first aid supplies)
Penetrants (i.e. lock-ease, WD-40, etc.)	Items containing Mercury (i.e., certain electrical switches etc.)
Corrosives (i.e. muriatic acid, sodium hydroxide)	Lead or lead containing wastes (i.e., paint or paint debris containing lead)
Poisons (i.e., cyanide, arsenic)	PCB=s (Polychlorinated Biphenyls)
Non-reusable Compress Gas Cylinders (i.e. propane, butane, etc.)	Wastes generated from the clean up of hazardous material spills
Aerosols (i.e. spray paints or lubricants)	Petroleum products (i.e., gasoline, oils etc.)
The above list represents some typical examples of items which may be considered hazardous waste and will require proper waste management prior to disposal. Subcontractors having any questions regarding proper management of hazardous materials/wastes should immediately contact their CHBWV Supervisor (s) for assistance.	

6.4 Animal Control

Subcontractor employees are responsible for avoiding contact with animals and animal products and shall notify the CHBWV STR who will request assistance from the appropriate CHBWV organization.

7.0 **EMERGENCY MANAGEMENT AND SECURITY**

7.1 Security

7.1.1 The STR is responsible for ensuring all subcontractors follow security rules as defined in WVDP-550, *Safeguards and Security Procedures Manual*.

7.2 Accident Reporting and Investigation

7.2.1 Alarm

The plant wide "**ALL PAGE**" system, accessed by dialing 812 on any plant phone, serves as the WVDP "Fire or Emergency Alarm". This system, using enhanced volume, goes out to most areas of the facility allowing voice announcement of fire, personal injury accident or other emergency conditions. An emergency is also announced on each channel of handheld radios to ensure all personnel. To

report a fire, for example, dial 812 on any plant phone, make an announcement and repeat the message twice, giving as precise a location as you can, then hang up to return the "all page" to service.

7.2.2 Notification

Subcontractor employees are required to immediately report all work related injuries, illness, or accident, to their supervisor. The subcontractor, safety engineer/representative or supervisor, must promptly notify the CHBWV STR and buyer of all injuries, illnesses, accidents, or fires, regardless of severity, without delay.

7.2.3 Investigation

The subcontractor shall participate in the investigation of each work related accident involving injury, illness, or property damage, and report that information to CHBWV in writing. Incidents, that is, accidents which do not result in injury or property damage, must also be investigated and reported as outlined in WVDP-242, *Event Investigation and Reporting Manual*.

7.2.4 Reporting

The subcontractor shall immediately report all injuries and illnesses, property damage, and motor vehicle accidents that occur at the work site to CHBWV Management.

7.3 WVDP Site 812 All-Page System

Tampering with the Site 812 All-Page System by unauthorized personnel is not permitted. Any subcontractor's employees and the employees of subtiers found responsible for such tampering will be subject to disciplinary action. .

7.4 Fire and Explosion Control

7.4.1 Fire Prevention and Protection

- A. Each subcontractor shall establish and submit for approval a program to minimize the potential loss due to fire or explosion. This program should specify requirements for equipment, suppression of fires, training of personnel and a fire inspection program. Immediate notification shall be made to Security of any fire or related emergency (Extension 4209/4330). Emergency phone numbers shall be posted as necessary to minimize delay in notification.
- B. Temporary building complexes (change trailers, sheds...) shall be located 50 feet from other structures. Floor area of a temporary building complex shall not exceed 5000 ft. Temporary buildings within the complex shall be separated by at least 10 ft. When a large project requires a great number of temporary buildings (total floor area over 5,000 ft) a plot plan of the proposed locations shall be submitted to CHBWV for approval.
- C. Portable fire extinguishers suitable for the hazard shall be provided by the subcontractor and spaced such that travel distance to the extinguisher does not exceed 50 ft. abide by the requirements of the CHBWV Fire Protection Program per WVDP-177, *CHBWV Fire Protection Program*.

7.4.2 Welding, Cutting and Grinding

- A. The requirements of SHIP-200, *Hot Work Activities* establish a program to

control the fire risks associated with all welding and cutting operations. Outside of designated weld shops, the subcontractor shall also obtain a CHBWV Hot Work Permit which will be part of the Industrial Work Permit (IWP) and will specify site specific controls.

- B. The subcontractor shall contact the CHBWV IS&HS Department, before working on painted surfaces, to ensure that the paint is lead-free. Any debris containing lead shall be disposed of as directed by the CHBWV STR.
- C. Welding screens and/or portable flash curtains shall be constructed of noncombustible materials. They are mandatory for all field welding operations, must from be adequate to contain any weld sparks or spatter, and must shield personnel from sparks or welding flashes from all direction.
- D. Provision shall be made for a fire watch with proper fire extinguishing equipment, to continue watching for a period of time after ceasing welding/cutting/grinding operations as specified on the IWP. The fire watch shall have no other responsibilities and perform no other duties, while acting as the fire watch. Fire watches will be provided site specific training by CHBWV.

7.4.3 Explosives

The use of explosives at the WVDP is prohibited.

7.4.4 Fire Protection and Detection Systems

All work on or around fire protection or detection systems shall be identified in the safety system section of the IWP. In addition, all work which could accidentally activate these systems shall also be listed. For example welding, grinding or burning could activate a smoke alarm in a closed area. Subcontractors shall request system impairment for that system on a Service Request Form. Subcontractors shall ensure that no work starts on or near these systems until a completed, signed Safety Equipment Release Form has been issued.

NOTE: *CHBWV is responsible for completing and issuing a Safety Equipment Release Form to the Subcontractor when work is required on fire protection and detection systems could activate a fire protection system.*

7.5 Flammable and Combustible Liquids Use and Storage

7.5.1 Subcontractors shall adhere to the basic requirements as described in 20 CFR 1926.152, SHIP-228, *Combustible Control Program for Radiological Facilities* and WV-912, *Hazardous Chemical Storage*. The following requirements are in addition to those of OSHA or are presented to emphasize OSHA requirements:

- A. Only a single shift (8 hour) supply of paint or flammables shall be located within a WVDP building. Excess quantities shall be stored well detached from WVDP facilities (minimum of 50 feet) unless these quantities are stored in UL listed flammable liquid storage cabinets. No more than three (3) flammable liquid storage cabinets may be placed in a single fire area.
- B. All flammable liquid safety cans shall be equipped with a self-closing cap, automatic pressure relief, and flame arrestor. Safety cans shall be constructed of metal and properly labeled. The capacity of the safety cans shall not exceed 5 gallons. All safety cans shall be UL approved.

- C. Ventilation shall be provided as necessary to maintain the concentration of flammable vapors well below the lower explosive limit or vapor concentrations at a level safe for occupants.
- D. Flammable liquids may be used only where there are no open flames or other sources of ignition within 50 feet.
- E. Smoking shall be prohibited in areas of flammable liquid use or storage. Signs prohibiting smoking within 50 feet shall be posted.
- F. Solvents used for cleaning within WVDP buildings shall be nonflammable or have a flashpoint above 100° F. Exceptions to this will require specific approval, in writing, from CHBWV Safety Department, before work begins.
- G. Portable fuel tanks for vehicles and operating equipment may be brought and stored on-site provided the location and tank equipment are approved by CHBWV.

7.5.2 Liquefied Petroleum Gas (LPG)

LP gas shall be stored and dispensed per OSHA 25CFR1926.153. In addition, all LP gas containers of greater than 60 gallons shall be appropriately labeled as to contents. An appropriate size, "No Smoking Within 25 Feet" sign shall be placed on the sides of the container.

8.0 REFERENCE DOCUMENTS

WV-370, *Underground Utility Review Policy*
 WV-912, *Hazardous Chemical Storage*
 WV-921, *Hazards Identification and Analysis*
 WV-935, *Management Expectations - Safety, Changing Conditions and Hazards, and Stopping Work*
 WV-988, *Employee "Right-To-Know" Program – Hazard Communication*
 WVDP-010, *WVDP Radiological Controls Manual*
 WVDP-011, *WVDP Industrial Hygiene and Safety Manual*
 WVDP-082, *DOE Hoisting and Rigging Manual*
 WVDP-177, *CHBWV Fire Protection Program*
 WVDP-195, *The Lead Management and Control Plan*
 WVDP-550, *Safeguards and Security Procedures Manual*
 WVDP-553, *Step Back Program*
 PROP-12, *Motor Vehicle Program*
 SHIP-108, *Job Safety Analysis*
 SHIP-109, *Personal Protective Equipment*
 SHIP-110, *Signs and Barricades*
 SHIP-200, *Hot Work Activities*
 SHIP-201, *Industrial Work Permits*
 SHIP-202, *Confined Space Entry*
 SHIP-215, *Compressed Gas Cylinders*
 SHIP-217, *Heavy Equipment Safety*
 SHIP-218, *Electrical Safety*
 SHIP-220, *Excavations and Trenching*
 SHIP-228, *Combustible Control Program for Radiological Facilities*
 SHIP-232, *Lead Assessment Program*
 SHIP-234, *Subsurface Investigations and Penetrations*
 SOP 00-04, *Lock, Tag and Confirm Procedure*
 SOP 00-11, *Troubleshooting and Maintenance of Electrical Equipment*
 SOP 00-38, *Administration of Hoisting and Rigging Activities*
 SOP 15-56, *Inspecting Mechanized Hoisting Equipment*