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## HEALTH AND SAFETY PROCEDURE 317 – CONTROL OF HAZARDOUS ENERGY

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### 1.0 PURPOSE

The purpose of this procedure is to provide a standard practice for the facility to perform control of hazardous energy to minimize the potential for miscommunication leading to injury or exposure. Control of Hazardous Energy is a Life Critical Procedure.

### 2.0 SCOPE

This Program covers the servicing and maintenance of machines and equipment in which the “unexpected” energization or startup of the machines or equipment or release of stored energy could cause injury to personnel.

The need to lockout, tagout and try is not limited to when the equipment or machinery is inspected, serviced, repaired, installed, or removed.

### 3.0 DEFINITIONS

- 3.1 **Affected Employee** - An employee whose job requires the operations or use of equipment on which servicing or maintenance is being performed under lockout tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.
- 3.2 **Authorized Employee** - A person who locks out or tags out equipment in order to perform servicing or maintenance on equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered in this policy.
- 3.3 **Permit Issuer** - An individual who has demonstrated the knowledge and skills required to comply with all Health & Safety Procedures associated with overseeing covered permitted safe work activities. This individual shall also be certified to issue Safe Work Permits as per HSP 207 – Permit Writer Certification.
- 3.4 **Permit Recipient** - The individual designated as being responsible for obtaining approval to perform permitted work and communicate the provisions/requirements of approved work activities to all members of the work crew.
- 3.5 **Permit Acceptor** – Members of a crew tasked with understanding and complying with all requirements outlined on the Permit and relevant Procedures and then safely performing permitted work activities. Permit Acceptor(s) are required to sign under the ‘Permit Acceptance’ section of the Permit after affixing their Individual (BLUE) Lock. A Permit Recipient

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may become a Permit Acceptor if they perform servicing or maintenance work.

- 3.6 **Qualified Electrician** - An individual who has received training that meets the requirements of 29 CFR 1910, Subpart S.
- 3.7 **Servicing and/or maintenance** - Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing equipment. These activities include lubrication, cleaning or unjamming of equipment and making adjustment's or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy
- 3.8 **Energy Source** - Any electrical, mechanical, hydraulic, pneumatic, chemical, thermal, gravitational, or any other source of "static" or "dynamic" energy that could cause injury.
- 3.9 **Energy Isolating Device** - A physical device that prevents the transmission or release of energy, such as:
  - 3.9.1 Manually-operated electrical circuit breaker;
  - 3.9.2 Disconnect switches;
  - 3.9.3 A manually-operated switch;
  - 3.9.4 Slide gate;
  - 3.9.5 A line valve;
  - 3.9.6 Blocks, springs, or support bars;
  - 3.9.7 Chains or cables,
  - 3.9.8 Blinds/pancakes/blank flanges; and
  - 3.9.9 Pipe plugs
- Note:** Push buttons, selector switches, limit switches, or other control-circuit type devices are not considered energy isolating.
- 3.10 **Equipment Owner** - The department or individual(s) that is directly in control and responsible for the operation of a piece of equipment.
- 3.11 **Equipment** - Includes but not limited to machines, vessels, piping, pumps, motors, electrical panels, tools etc.
- 3.12 **Energy Isolation List** - A complete list of all system's Energy Isolation Points that must be addressed when isolating a system for Servicing and/or Maintenance. The list will include, but is not restricted to, electrical, hydraulic, pneumatic, all valves, lines to be disconnected, and areas where blinds are to be installed.

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- 3.13 **Energy Isolation Point** - A location on a system that can physically prevent the transmission or release of energy.
- 3.14 **Energy Isolation Verification** - A final field check performed by the Equipment Owner to “Try-out” and confirm that the specified equipment has been properly isolated and/or de-energized, and that the conditions in the field are safe for maintenance or servicing to be conducted.
- 3.15 **Lockout** - The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.
- 3.16 **Lockout Device** - Any of the hardware used to isolate a hazardous energy source and render it inoperable. These devices may include, lockboxes, locks with proper identification, chains, hasps, blinds, cables, and tags.
- 3.17 **Lock Removal Authorization Form** - The form used to notify management of the necessary removal of a lock in an employee’s absence.
- 3.18 **Tagout** - The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.
- 3.19 **DANGER ‘Do Not Operate’ (DNO) Tag** – (Refer to Appendix E) A prominent warning. These White or Orange Tags securely attached to a Lockout Device or Energy Isolation Point that prohibits operation. These DNO Tags shall legibly provide details of the individual who affixed the tag (Equipment Owner or Permit Recipient) as well as the reason for Energy Isolation. These DNO Tags shall be capable of withstanding the environment they are used in. If Tags are secured with ties (ex: zip-ties, nylon ties etc.), the tie shall:
- 3.19.1 At a minimum, have 50 lbs. unlocking tensile strength,
  - 3.19.2 Be non-reusable; and
  - 3.19.3 Be self-locking
- 3.20 **Blinds** - A red handled plate installed in pipes to effectively block and isolate lines or equipment.

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- 3.21 **Blind(ing)** - The absolute closure of a pipe, line, or duct by the fastening of a solid plate that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.
- 3.22 **Chains** - Chains and locks are used to lock valves and hand wheels. The chain is placed through the hand wheel and around an immovable structure and then locked.
- 3.23 **Gang Hasps** - Scissor-like devices that accept numerous locks and are applied directly to the equipment being isolated.
- 3.24 **Lockbox** - A tamper-proof enclosure capable of accommodating gang hasps and locks that prevents physical access to a key(s) locked inside.
- 3.25 **Locks** - Locks are the primary method to isolate equipment and machinery out-of-service. Locks issued for control of hazardous energy shall not be used for any other purpose, and shall be of one manufacturer.
- 3.26 **Zero Energy** - Is the point at which equipment has no energy flowing to or from it and as a result, does not have the potential to cause accidental physical harm or injury if handled in this state.
- 3.27 **Pipe Plugs** - A plumber's stopper placed on the end of lines to effectively isolate hazardous energy.
- 3.28 **Electrical Plug Locks** - A device that encloses and locks over an electrical plug connected to equipment to protect against inadvertent energizing.
- 3.29 **Valve Covers** - An encapsulating device used to lock some valves controlled by hand wheels or handles. The valve is turned to the desired position and the handle or hand wheel is removed. The valve cover is placed over the valve stub and tightly locked.
- 3.30 **Valve Lock** - A device that locks out a valve found on lines, such as steam, water, and compressed air lines. This may consist of a chain and lock or a device that encapsulates the valve handle or wheel.
- 3.31 **Long Term Lockout** - Any equipment that will be taken out of service and locked out for greater than a 6-month time period will be considered as a long-term lock out.
- 3.32 **Long Term Lockout Form** - A long-term lock out form will be used to

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document the equipment that will be locked out. The form will contain the equipment name, the equipment number (when applicable) a brief description of why the equipment is locked out, the date the equipment was locked out and the name of the person who locked out the equipment. Appropriate signatures are required on the form depending on the areas affected.

**3.33 Long Term (BLACK) Lock** - Will be a black lock and keyed area specific.

### **4.0 RESPONSIBILITIES**

#### **4.1 Health and Safety (H&S):**

- 4.1.1 Trains Affected Employees to an awareness level on control of hazardous energy.
- 4.1.2 Trains Authorized Employees on the proper use of hazardous energy control procedures.
- 4.1.3 Ensures that Lockout/Tagout/Try permit audits are conducted periodically, at least annually. The audit record should contain information on the example audit document found in Appendix C.
- 4.1.4 Maintains audit records.
- 4.1.5 Audit contractors' compliance.
- 4.1.6 Performs annual evaluation of the program using inspection results

#### **4.2 Department/Unit Supervision:**

- 4.2.1 Learn, understand, comply with and enforce the requirements outlined in Westlake's Control of Hazardous Energy Program.
- 4.2.2 Ensure that each Unit or Department's respective Equipment Owners, Permit Issuers, Permit Recipients, and Permit Acceptors are properly trained.
- 4.2.3 Provide guidance and mentor personnel who escalate questions or concerns regarding Westlake's Control of Hazardous Energy procedure.
- 4.2.4 Retrain personnel when they demonstrate a lack of knowledge or understanding of Westlake's Control of Hazardous Energy

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procedure requirements.

- 4.2.5 Maintain Lockbox Kits in designated areas and issue appropriate Lock(s) to authorized personnel, where applicable.
- 4.2.6 Comply with procedure requirements for the management of ACTIVE and CLOSED Lockouts, Lock Removal Authorization and Long Term Lockouts.
- 4.2.7 Develop corrective action plans covering deficiencies found during the H&S Control of Hazardous Energy Procedure audits.

### 4.3 Equipment Owner:

- 4.3.1 Designated as the employee performing Energy Isolation in the process for controlling hazardous energy exposure by complying with the requirements set forth in the Safe Work Permit procedure and Control of Hazardous Energy program.
- 4.3.2 Learn, understand, and follow Westlake's Control of Hazardous Energy Program.
- 4.3.3 Initiate hazardous energy control practices and procedures utilizing appropriate Lockout Devices, Isolation (GREEN) Locks and Owner/Operations (RED) Lock and Tags.
- 4.3.4 Communicate specific energy isolation details that are unique to the job, area, process or equipment to the Permit Recipient.
- 4.3.5 Ensure the equipment and machinery is effectively isolated and enforce the control of hazardous energy procedure.
- 4.3.6 Ensure personnel safety by reviewing drawings, consulting people with system knowledge, and by verifying 'Zero Energy' in the field.

### 4.4 Permit Issuer:

- 4.4.1 Designated as an Affected Employee in the process for controlling hazardous energy exposure by complying with the requirements outlined in the Safe Work Permit procedure and Control of Hazardous Energy Program.
- 4.4.2 Learn, understand, and follow Westlake's Control of Hazardous Energy Program.

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- 4.4.3 Complete applicable portions of Safe Work Permit and appropriate columns and fields on the Energy Isolation & Verification List (Appendix B) prior to Permit Issuance.
  - 4.4.4 Review Permit requirements with Permit Recipient(s) and verify that all Permit specifications have been met.
  - 4.4.5 Walk down Energy Isolation Points on Energy Isolation & Verification List (Appendix B) and verify Zero Energy in the field with the Permit Recipient with each new Safe Work Permit issued.
  - 4.4.6 After Permit Issuance, monitor work area(s) to ensure Permit requirements are complied with.
  - 4.4.7 Prior to Permit Close-out, ensure to review work area with the Permit Recipient and ensure that the job status is properly communicated and documented on the Permit. Ensure all crew personnel are accounted for and ALL Individual (BLUE) Locks removed from Lockout Device prior to close-out.
- 4.5 **Permit Recipient:**
- 4.5.1 Designated as Authorized Employee in the process for controlling hazardous energy exposure by complying with the requirements outlined in the Safe Work Permit procedure and Control of Hazardous Energy program.
  - 4.5.2 Learn, understand, and follow Westlake's Control of Hazardous Energy Program.
  - 4.5.3 Issue Individual (BLUE) Locks to all authorized maintenance crew personnel.
  - 4.5.4 Consult with Department Supervision or Equipment Owner during field walk to ensure all sources of hazardous energy have been identified and isolated with 'Zero Energy' verified by affixing Orange DANGER "Do Not Operate" Tags to each Energy Isolation Point.
  - 4.5.5 After performing field walk with Permit Issuer, assume custody over the configuration of the Equipment Owner's Lockout by affixing a Maint/Dept (YELLOW) Lock to the appropriate Lockout Device.

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### 4.6 Permit Acceptor:

- 4.6.1 Designated as Authorized Employee in the process for controlling hazardous energy exposure by complying with the requirements outlined in the Safe Work Permit procedure and Control of Hazardous Energy program.
- 4.6.2 Learn, understand, and follow Westlake's Control of Hazardous Energy Program.
- 4.6.3 Read, understand and comply with Permit requirements.
- 4.6.4 Immediately report to Operations any conditions which may render the Lockout or the control of hazardous energy ineffective.

### 4.7 Contractors:

- 4.7.1 Contractors are required to meet or exceed this Westlake Program.

## 5.0 EQUIPMENT USED IN THE CONTROL OF HAZARDOUS ENERGY

### 5.1 Lock Identification

- 5.1.1 Owner/Operations (RED) Lock is utilized as the initial isolation by the Equipment Owner. Some additional requirements include:
  - 5.1.1.1 Owner/Operations RED Locks shall be keyed alike
  - 5.1.1.2 Each Unit or Department's RED Lock set shall be keyed differently
  - 5.1.1.3 Owner/Operations Lock has a RED band or shall be RED in color
  - 5.1.1.4 'Do Not Operate' Tags shall be affixed to the gang hasp if this lock; and
  - 5.1.1.5 Owner/Operations Locks are not to be used for individual protection and work cannot be performed on equipment without the addition of an Individual (BLUE) Lock.

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5.1.2 **Maintenance/Department (YELLOW) Lock** is utilized by the Permit Recipient to assume custody over the Lockout configuration for the energy isolation equipment or process. Some additional requirements include:

- 5.1.2.1 Each YELLOW lock set is keyed differently
- 5.1.2.2 Provides company or department identification
- 5.1.2.3 Maintained by each Maintenance Department or Contractor Permit Recipient(s) or their designee
- 5.1.2.4 Maint/Dept Lock has a YELLOW band or shall be YELLOW in color; and
- 5.1.2.5 The Maint/Dept (YELLOW) Lock shall not be used for individual protection. This Lock is intended to be used by Permit Recipients to maintain Lockout configuration from the Equipment Owner.

5.1.3 **Individual (BLUE) Lock** is utilized by an employee for their personal protection. It is the only lock that provides true employee protection and work cannot be performed without it. Additional requirements are:

- 5.1.3.1 Individual BLUE Locks have only one key and are in the control of the person to whom the lock and key is assigned
- 5.1.3.2 Each BLUE Lock is keyed differently
- 5.1.3.3 Must have employee identification consisting of employee name and company name provided on the body of the Lock
- 5.1.3.4 Maintained by the individual assigned with the Lock; and
- 5.1.3.5 Lock has BLUE band or shall be BLUE in color.

5.1.4 **Isolation (GREEN) Locks** are utilized to control multiple isolation points and used with a Lockbox with a limited use of Owner/Operations, Maintenance/Department, and Individual Locks required

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5.1.4.1 Utilized in conjunction with a Lockbox

5.1.4.2 Each lock set is keyed alike and each set is specific to a unique Lockbox

5.1.4.3 Maintained by individual units or departments

5.1.4.4 All spare keys to these locks will be maintained by HSE Department; and

5.1.4.5 Lock has a GREEN band or shall be GREEN in color.

5.1.5 **Long-term Lockout (BLACK) Locks** are utilized for any equipment that will be taken out of service and locked out for greater than a 6-month time period.

5.1.5.1 Refer to section 6.10 for procedure requirements surrounding Long-term Lockout.

### 5.2 Lockbox

5.2.1 A lockbox shall be used for all isolations unless stated otherwise in a specific section of this procedure below.

5.2.2 A group lockbox kit may be obtained from unit or department designated areas.

5.2.3 The lockbox will be placed at the work site or designated area.

5.2.4 After use, group lockboxes must be returned to the unit or department's designated area for proper inventory and maintenance.

## 6.0 PROCEDURE

### 6.1 Equipment or Machinery Upgrade

6.1.1 It is Westlake's Policy that all process equipment and machinery be able to accept a Lockout Device. If process equipment or machinery cannot accept a Lockout Device, whenever replacement or major repair, renovation or modification of machine or equipment is performed, and whenever new machines or equipment are installed, energy isolating devices for such machine or equipment shall be

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designed to accept a Lockout Device.

### 6.2 Preparation for Energy Isolation

- 6.2.1 The Equipment Owner shall know the type and magnitude of energy that the process equipment or machinery utilizes, as well as the hazards, and ways to control the energy.
- 6.2.2 The Equipment Owner will determine the process equipment or machinery to be removed from service with energy isolated and locked-out with consultation from Department or Unit Supervision.
- 6.2.3 The Equipment Owner, at this time, obtains a blank copy of Appendix B (Energy Isolation & Verification List) or produces a pre-generated Energy Isolation & Verification List for the equipment noted.

**Note:** If a pre-generated Energy Isolation & Verification List does not exist, the Equipment Owner will be required to produce one by hand containing an accurate log of ALL energy isolation points. To ensure accuracy, the Equipment Owner is responsible for consulting with Department Supervision, individuals with specific equipment knowledge and/or updated P&IDs and ISO drawings located in their respective Department or Unit Control Room.

- 6.2.4 The Equipment Owner is required to generate or produce Appendix B: Energy Isolation & Verification List with the following sections and columns filled out:
  - 6.2.4.1 Equipment Name/Number
  - 6.2.4.2 Unit/Work Area; and
  - 6.2.4.3 Column (A), ensuring to document, with sufficient detail, each energy isolation point while also indicating the desired manner, fashion or position with which each isolation point will be isolated in the field.
- 6.2.5 In coordination with Department or Unit Supervision, the Equipment Owner may proceed with approved steps for equipment or machinery shutdown.

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### 6.3 Energy Isolation

6.3.1 Failure to Lockout, Tagout and Tryout equipment or machinery, or any other devices is a violation of Westlake's Life Critical Rules and is considered grounds for disciplinary action.

6.3.2 All permitted work necessitating the control of hazardous energy requires the use of a Lockbox. However, maintenance and/or servicing tasks that require 'single-point energy isolation' DO NOT require the use of Appendix B: Energy Isolation & Verification List.

**Note:** Refer to Section 6.4.10 of this procedure for requirements pertaining to 'Single-point Energy Isolation'

6.3.3 Each piece of process equipment or machinery, including energy isolation devices, shall be inspected by the Equipment Owner for sources of potential energy as well as any hazardous conditions (e.g. damage or defects) which may ultimately render the Lockout to be ineffective.

**Note:** This includes inspecting for any additional, potentially unidentified sources of hazardous energy (e.g. nitrogen hose connections etc.)

6.3.4 Utilizing the same Energy Isolation & Verification List (Appendix B) previously obtained or prepared, the Equipment Owner shall walk down and accurately locate each Energy Isolation Point noted in Column (A).

6.3.5 A control power 'ON/OFF' select must be isolated by isolation of the control breaker/panel. Tagging a control power on-off selector switch only is NOT safe and WILL NOT be considered as meeting these requirements.

6.3.6 The Equipment Owner shall then perform appropriate steps for energy isolation in accordance with the requirements outlined in this procedure (e.g. blocking, removing or otherwise stabilizing each Energy Isolation Point etc.) Once all pressurized systems have been depressurized, rotating parts have stopped, and any other potential energy sources stabilized. The Equipment Owner shall then:

6.3.6.1 Affix Isolation (GREEN) Locks to each Energy Isolation Device with a completed White DANGER 'Do Not

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Operate' Tag providing the following details: Equipment Owner's name, Date of Isolation and explanation of Lockout.

**Note:** When affixing Tags, the shackle of the lock must be placed through the eyelet of the tag.

6.3.6.2 Complete Columns (B) and (C) on Appendix B in the sequence matching the order in which each Energy Isolation Point was energy isolated and tried-out with 'Zero Energy' verified.

6.3.6.2.1 Verification of Energy Isolation and 'Zero Energy' is communicated on Appendix B by the responsible Equipment Owner providing their initials in Column (B) and noting the date of isolation in Column (C).

**Note:** "Tryout" includes, to the extent possible, verifying 'Zero Energy' has been achieved (e.g. ensuring bleed valves are clear, block valves are not leaking by, trying start/stop switches and ensuring valves are rendered inoperable etc.)

6.3.6.3 The Equipment Owner who completed the successful Lockout of the equipment noted with 'Zero Energy' achieved and verified, shall affix their Owner/Operations (RED) Lock and Tag to the Lockbox. The White DANGER 'Do Not Operate' Tag affixed at the Lockbox shall provide the same information covered in the previous section of this procedure. At this time, the Equipment Owner shall:

6.3.6.3.1 Legibly print their name and provide their signature after attesting to the statement provided in the 'Equipment Owner Acknowledgement' section of Appendix B.

6.3.6.3.1.1 In the event that the Equipment Owner who initiated the Lockout is incapable of completing the Lockout, another Equipment Owner (qualified in the area) may complete the lockout on their behalf.

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6.3.6.3.1.2 The subsequent Equipment Owner resumes the documented process of Energy Isolation, utilizing the same Energy Isolation & Verification List initiated by the previous Equipment Owner. The subsequent Equipment Owner is only responsible for completing the remaining empty fields in Columns B & C of Appendix B. The subsequent Equipment Owner is also required to legibly print and sign their name in the space provided under the 'Equipment Owner Acknowledgement' Section of Appendix B.

6.3.6.3.2 Document the Lockbox Number in the space provided at the top of Appendix B.

6.3.6.4 The Equipment Owner shall then produce a 'Controlled Copy' of Appendix B with Energy Isolation (Columns A, B & C) completed and it shall be stored and maintained under 'ACTIVE Lockouts' within their respective Department or Unit Control Room.

**Note:** Refer to Section 6.13 'Appendix B: Energy Isolation & Verification List' for policy regarding the management of ACTIVE and CLOSED Lockouts.

6.3.6.4.1 For instances mentioned in 6.3.6.3.1.1, only the subsequent Equipment Owner who affixed the Owner RED Lock to the Lockbox is required to produce the 'Controlled Copy' of Appendix B to be kept on file.

6.3.6.4.2 For jobs where the duration of the maintenance or servicing tasks may exceed a single maintenance shift, the Controlled Copy of Appendix B shall be readily accessible for all subsequent Permit Issuers to make necessary copies to meet the requirements outlined in Section 6.4 regarding 'Energy Isolation & Zero Energy Verification'

6.3.6.5 The Equipment Owner may, at this time, transition to the role of Permit Issuer by following the steps outlined in the

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following section (6.4 Zero Energy Verification & Permit Issuance.)

### 6.4 Energy Isolation & Zero Energy Verification and Permit Issuance

Any failures to perform the critical functions or duties outlined in this section regarding Permit Issuers and Permit Recipients responsibilities for conducting 'Energy Isolation & Zero Energy Verification' in the field and/or correctly documenting the completion of such may be deemed a violation of Westlake's Life Critical Rules and, pending an investigation, could result in disciplinary action.

6.4.1 After receiving authorization from Unit/Department Supervision or their Designee and obtaining the necessary copies of the Energy Isolation & Verification List (Appendix B) with ALL required fields completed (indicating that Energy Isolation has been completed and documented by the Equipment Owner), the Permit Issuer shall proceed with conducting 'Energy Isolation Verification' (Column D) with the Permit Recipient.

6.4.2 At this time, the Permit Issuer completes the fields provided for 'Task Description', 'Safe Work Permit Number (SWP #)' and 'Work Order Number' (when applicable) located at the top of Appendix B.

6.4.3 In order for 'Zero Energy' to be verified, sufficient efforts to 'Tryout' the necessary energy isolation points must occur. This process can be conducted concurrently by the Permit Issuer and the Permit Recipient. The Permit Recipient, after ensuring that all employees are clear of the process equipment or machinery, will "Tryout" the start button, activate circuit breaker(s), or other devices to make certain the equipment is inoperable and de-energized. Operating controls will be returned to the "neutral" or "off" position after Tryout.

**Note:** Custodianship of the instrument pressure device or on-stream analyzer system shall be transferred from the Equipment Owner to the Instrument or Analyzer Technician upon approval of the work permit. The boundary of the custodianship shall be the manifold or valve where the Instrument or Analyzer Technician is under exclusive control. Custodianship shall remain with the Instrument or Analyzer Technician until the work permit is signed off as complete by the Equipment Owner. Custodianship then reverts back to the Equipment Owner

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- 6.4.4 'Energy Isolation Verification' (Column D) and verification of Zero Energy can and shall only be accomplished in the field.
- 6.4.5 Documenting Energy Isolation and 'Zero Energy' Verification for each Energy Isolation Point is indicated by the Permit Issuer initialing in Column (D) of Appendix B. This may be accomplished concurrently while the Permit Recipient is verifying 'Zero Energy' in the field.
- Note:** The expectation is that a new copy of the prepared Energy Isolation & Verification List (Appendix B) will be obtained by the Permit Issuer and walked down and verified in the field concurrently with the Permit Recipient prior to each new permit issuance.
- 6.4.6 It is during the field walk between the Permit Recipient and Permit Issuer that the Permit Recipient affixes an Orange DANGER "DNO" Tag to each energy isolation point after 'Energy Isolation and Zero Energy Verification' has been performed.
- 6.4.6.1 The completed Orange DANGER "DNO" Tag affixed to an Energy Isolation Point indicates that:
- 6.4.6.1.1 This point has been identified in the field and tried out with Zero Energy verified by the Permit Recipient legibly noted on the Tag prior to the authorized servicing or maintenance work performed on a system or process requiring the control of hazardous energy, and;
  - 6.4.6.1.2 Shall not be altered or tampered with in any manner or fashion that could undermine or render the Energy Isolation to be ineffective.
- 6.4.6.2 The completed Orange DANGER 'DNO' Tags, affixed to each Energy Isolation Point, remain valid as long as Lockout configuration is maintained by the Maint/Dept YELLOW Lock remaining affixed to the Lockbox.
- 6.4.7 After verifying Energy Isolation and Zero Energy for each Energy Isolation Point, the Permit Recipient shall affix their Maint/Dept (YELLOW) Lock and Tag to the Lockbox.

- 6.4.7.1 The Maint/Dept Lock and Tag shall provide proper

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identification detailing the Permit Recipient's name and their Department or Company's name.

- 6.4.7.2 Once the Maint/Dept YELLOW Lock and Tag is affixed to the Lockout Device, the Permit Recipient has assumed custody over the Lockout configuration.
- 6.4.8 After the Maint/Dept YELLOW Lock has been affixed to the Lockbox, the Permit Issuer and Permit Recipient shall legibly print and sign their names attesting to the statement provided in the 'Permit Issuer & Permit Recipient Acknowledgement' section of Appendix B.
- 6.4.9 Once complete, the process for transferring custody over Lockout configuration is completed. A completed copy of Appendix B is required to be issued to the Permit Recipient to accompany the Field (TAN) Copy of the Safe Work Permit. Another completed copy of Appendix B is retained by the Permit Issuer and shall be maintained at the Lockbox.
- 6.4.10 For tasks involving Single-point Isolation, under the 'General Considerations' section of the Safe Work Permit, the Permit Issuer shall:
  - 6.4.10.1 Note "Single-point Isolation" in the space provided for 'Lockbox Number'
  - 6.4.10.2 Mark "No" for "Is the Isolation/Blind List complete and attached?"
  - 6.4.10.3 Make a note that "Energy Isolation and Zero Energy achieved and verified in the field" in the 'Comments' Section located at the bottom of the Safe Work Permit.
  - 6.4.10.4 The Permit Recipient(s) assumes custody over Lockout configuration after affixing their Maint/Dept YELLOW Lock and Orange DANGER 'DNO' Tag to the Lockout Device attached to the sole energy isolation point.
- 6.4.11 The equipment or process is now deemed to be Energy-isolated with Zero Energy achieved and verified, however work activities are not authorized to commence until Personal (BLUE) Locks have been affixed to the Lockout Device (e.g. Lockbox, Gang Hasp etc.)

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### 6.5 After Permit Issuance

- 6.5.1 Unauthorized removal of, tampering with, or disregarding of any Energy Isolation Device, Tag or Lockout Device without proper justification or authorization is cause for disciplinary action.
- 6.5.2 Upon request, and for any reason, a Permit Acceptor (any member of the work crew) may request to challenge the Lockout of the equipment, machinery or covered process requiring the control of hazardous energy.
- 6.5.3 Prior to commencing permitted work activities, each member of every work crew shall affix a Personal (BLUE) Lock which legibly provides proper employee identification on the body of the BLUE Lock.
- 6.5.4 The Lockout of the process, equipment or machinery is deemed complete after Permit Acceptor(s) have:
  - 6.5.4.1 Been given the opportunity to review or challenge the Lockout (repeat the steps for Energy Isolation & Zero Energy Verification outlined in Section 6.4 of this procedure),
  - 6.5.4.2 Affixed their Personal (BLUE) Locks to the appropriate Lockout Device (e.g. Lockbox, Gang Hasp etc.)
  - 6.5.4.3 Signed their name(s) attesting to the statement provided under the 'Permit Acceptance' Section located on the back of the Field (TAN) copy of the Safe Work Permit.
- 6.5.5 The presence of Personal (BLUE) Locks on the Lockout Device and signatures provided under the 'Permit Acceptance' Section of the Permit signifies that the Lockout of the process equipment or machinery is complete and permitted work activities are authorized to commence.

### 6.6 Permit Return & Restoring Process/Equipment to Normal Operations

#### 6.6.1 Permit Return

- 6.6.1.1 Permit Issuers and Permit Recipients are required to perform steps for 'Permit Return' in accordance with the requirements set forth in HSP 200 – Safe Work Permit

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6.6.1.2 After completion of permitted work activities, the Permit Recipient shall ensure that appropriate Locks (ALL Personal BLUE Locks and/or their Maint/Dept YELLOW Lock) has been removed from the Lockout Device (e.g. Lockbox, Gang Hasp etc.) as required by this procedure.

6.6.1.2.1 Please refer to Section 6.7 'Transfer of Authority' for policy regarding Locks that shall remain on the Lockout Device for jobs that were not completed and the need for the Lockout extends beyond a single maintenance shift.

6.6.1.3 During the documented process for Permit Return, the Permit Issuer shall mark the appropriate boxes in the 'Permit Return' section located at the bottom of Appendix B indicating whether the maintenance or servicing job has been 'COMPLETED' or is still 'ONGOING.'

6.6.1.4 After Permit Return, the Energy Isolation & Verification List (Appendix B) maintained at the Lockout Device shall be attached to the Field (TAN) Copy of the Safe Work Permit and then returned to Unit/Department Supervisor's office.

### 6.6.2 Restoring Process or Equipment to Normal Operation

- During Permit Return, the Permit Recipient is required to provide documented notification of job status update to the Permit Issuer.
- After Permit Return, it is the responsibility of the Permit Issuer to notify Unit/Department Supervision of completion status of the maintenance or servicing job.
- Lastly, it is the responsibility of the Unit/Department Supervisor to delegate the task of returning to service any process equipment or machinery under Lockout to the authorized Equipment Owner(s).

6.6.2.1 Prior to proceeding with approved steps for restoring process or equipment to normal operation, **Equipment Owner(s)** shall:

6.6.2.1.1 Notify Affected Employees of completion of the job,

6.6.2.1.2 Retrieve the appropriate controlled copy of Appendix B for the process, equipment or machinery noted from the file of ACTIVE Lockouts,

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6.6.2.1.3 Remove the Owner/Operations (RED) Lock and Tag from the Lockout Device, and when applicable, retrieve the key to the set of Isolation (GREEN) Locks within the Group Lockbox,

6.6.2.1.4 Walk out the entirety of the Lockout checking off each Energy Isolation Point in Column E of Appendix B that is or has been returned to service (e.g. Isolation GREEN Locks pulled, blind(s) removed, low point bleeds and vents closed, pipe spools reinstalled etc.)

**Note:** ALL Isolation (GREEN) Locks removed during the process outlined above shall be kept and stored as a set with the appropriate Lockbox and maintained in approved designated areas.

6.6.2.1.5 Inspect process equipment or machinery to ensure proper operation and return equipment to service (if applicable).

6.6.2.2 Once the process for restoration to normal operations is completed per this procedure and to the satisfaction of the Equipment Owner and Unit/Department SOPs, the controlled copy of Appendix B (with Column E completed) shall be returned to the Unit/Department Supervisor.

**Note:** Refer to Section 6.13.2 'Unit/Department Management of ACTIVE and CLOSED Lockouts' for policy regarding Unit/Department responsibilities.

### 6.6.3 Absent Employee Lock Removal

All equipment and machinery will be restored to "normal operation" by the Equipment Owner. If an individual cannot be located or is not immediately available, then Unit or Department Supervision shall:

6.6.3.1 Verify that the individual who affixed the Individual (BLUE) Lock is not at the plant.

6.6.3.2 Make every possible effort to contact the owner(s) of the lock to notify him/her of the lock removal.

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- 6.6.3.3 Upon Unit Supervision consulting with both Maint/Dept Supervision and the Permit Recipient, they must agree to the safe removal of this lock.
- 6.6.3.4 In such instances of removal, a Lock Removal Authorization Form must be completed by Unit or Department supervision. The Authorization form must be sent to H&S within 24 hours (See Appendix A).
- 6.6.3.5 The Unit or Department Supervisor will deliver the completed Authorization Form to the Main Gate.
- 6.6.3.6 The Main Gate will block the individuals badge to prevent plant entry. And put a note in the system of the reason (Lock Removal)
- 6.6.3.7 After notification to the individual affected by the lock removal has been received, Maint/Dept Supervision can approve reactivation of the site access badge.

**Note:** The purpose of this step is to ensure that the individual does not return to the worksite assuming isolation of the equipment and their individual protection has been maintained.

### 6.7 Transfer of Authority

#### 6.7.1 When work **WILL BE** continued to subsequent, oncoming shift:

- 6.7.1.1 The Equipment Owner/Operations (RED) Lock and Tag shall remain on the Lockout Device indicating to all oncoming shift personnel that:
  - 6.7.1.1.1 Energy Isolation has been maintained by the responsible Unit/Department, and;
  - 6.7.1.1.2 The controlled copy of Appendix B for the respective Lockout remains ACTIVE.
- 6.7.1.2 ALL Personal (BLUE) Locks and Maint/Dept (YELLOW) Locks shall be removed from the Lockout Device indicating to all oncoming shift personnel that previous 'Energy Isolation & Zero Energy Verification' efforts conducted by the departing Permit Recipient has been

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forfeited, and;

6.7.1.3 ALL oncoming Permit Issuers, Permit Recipients and Permit Acceptors are required to repeat the approved steps and processes outlined in this procedure as follows:

6.7.1.3.1 Permit Issuers and Permit Recipients will repeat the steps meeting the requirements of Section 6.4 'Energy Isolation & Zero Energy Verification'

6.7.1.3.2 Permit Acceptors will repeat the steps and meet the requirements outlined in Section 6.5 'After Permit Issuance'

6.7.2 **When work WILL NOT BE continued to oncoming shift** (ex: Capital Jobs or other maintenance jobs where ALL work is not completed and the need for the Lockout, under its existing configuration, extends beyond a single maintenance shift):

6.7.2.1 The Permit Recipient shall comply with the requirements set forth in HSP 200 – Safe Work Permitting with regard to communicating incomplete job status to the Permit Issuer by marking "NO" next to "Is the job complete?" located in the Permit Return section located on the back of the Field (TAN) copy of the Safe Work Permit,

6.7.2.1.1 At a minimum, the Permit Recipient is required to communicate, IN WRITING, the job status before signatures are provided for Permit Return.

6.7.2.2 The Permit Issuer shall then mark "ONGOING" next to "Maintenance Job Status Update" under the 'Permit Return' Section located at the bottom of the copy of Appendix B maintained at the respective Lockout Device,

6.7.2.3 The Owner/Operations (RED) Lock and Tag shall remain on the Lockout Device indicating to all oncoming shift personnel that:

6.7.2.3.1 Energy Isolation has been maintained by the responsible Unit/Department, and;

6.7.2.3.2 The controlled copy of Appendix B for the respective Lockout remains ACTIVE

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6.7.2.4 The Maint/Dept (YELLOW) Lock shall remain on the Lockout Device until the job is complete or unless/until a determination is made between the Permit Recipient and Unit/Department Supervision to return the equipment back to service. Refer to 'Appendix A: Lock Removal Authorization Form' pertaining to the removal of Locks from Lockout Devices.

6.7.2.4.1 For each subsequent Safe Work Permit issued for the performance of servicing or maintenance work under covered Lockout(s):

6.7.2.4.1.1 The Permit Recipient(s) and the Permit Issuer shall repeat the steps for Section 6.4 'Energy Isolation & Zero Energy Verification' of this procedure with the only exception being that the existing Orange DANGER 'DNO' Tags previously affixed to each energy isolation point ARE NOT required to be replaced with new Tags so long as the Maint/Dept YELLOW Lock remains on the Lockout Device.

6.7.2.5 By completing the steps outlined above, custody over the Lockout configuration has been maintained due to the Maint/Dept YELLOW Lock remaining on the Lockout Device.

### 6.8 I&E/HVAC (Exclusive Control)

6.8.1 I/E & HVAC performs a number of routine minor preventative maintenance checks on certain low hazard/low risk job tasks where the technician maintains direct control of the isolation devices. Examples of these tasks include:

6.8.1.1 testing pressure transmitters or DP cells,

6.8.1.2 cleaning and flushing pH or conductivity probes,

6.8.1.3 testing level transmitters

6.8.1.4 process analyzers

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### 6.8.1.5 HVAC

- 6.8.2 Performing these tasks may be accomplished without installing lockout/tagout devices by either the Permit Issuer or the instrument technician as long as the technician is within reach of, and maintains direct control of the isolation devices at all times.
- 6.8.3 In the event the technician must leave the work area unattended, all isolation devices shall be locked out, or the equipment returned to normal operations.
- 6.8.4 During routine preventive maintenance, a qualified technician isolating equipment for their sole protection may lock the equipment with their Individual (BLUE) Lock without the additional Owner/Operations (RED) and Permit Recipient (YELLOW) Locks.
- 6.8.5 Custodianship shall remain with the Instrument or Analyzer Technician until the work permit is turned in to the Equipment Owner. Custodianship then reverts back to the Equipment Owner. If continued lockout is required, then the Equipment Owner must lockout using the Equipment Owner (RED) Lock.

## 6.9 Equipment Testing or Temporary Lock Removal

If the Lockout Devices must be temporarily removed to test equipment, the following actions will be taken:

- 6.9.1 Clear the process equipment and machinery of all tools and materials
- 6.9.2 Authorized and/or Affected Employees not involved in testing will clear out away from the area
- 6.9.3 Permit Acceptor(s) will remove their (BLUE) Locks
- 6.9.4 Permit Recipients will remove their (YELLOW) Lock(s)
- 6.9.5 The Equipment Owner will remove the Owner/Operations (RED) Lock and 'Do Not Operate' Tag
- 6.9.6 The Equipment Owner, with consultation from the Permit Recipient, will energize and proceed with testing
- 6.9.7 The Equipment Owner will de-energize and repeat

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Lockout/Tagout/Tryout procedure sequence as necessary.

**Note:** When applicable, the temporary removal of Locks and Tags, Column (E) of Appendix B, is not required to be completed by the Equipment Owner.

### 6.10 Long-term Lockout

Any equipment that will be taken out-of-service and locked out for greater than a 6-month time period will be considered as a long-term lock out. Long Term Lockout is required to be managed through the site's Management of Change (MOC) system software.

#### 6.10.1 Procedure:

- 6.10.1.1 Prior to locking out the equipment, machinery or process, the Long Term Lockout Form (Appendix D) shall be filled out.
- 6.10.1.2 Each Department Manager will designate a responsible person for filing long term lock out forms and maintaining locks and tags.
- 6.10.1.3 Before locking out any electrical equipment for long term, consult with your I&E Department.
- 6.10.1.4 The equipment will be locked out using a Long Term Lockout (BLACK) Lock.
- 6.10.1.5 A designated Long Term Lockout Tag will be affixed to the isolation point(s).
- 6.10.1.6 Prior to putting back in service, a Management of Change (Class 2) must be followed.

#### 6.10.2 Training

- 6.10.2.1 The training for this procedure will be done via a monthly safety meeting module.

### 6.11 Cord and Plug Connected Equipment or Machinery

- 6.11.1 Cord and plug connected equipment may be de-energized by unplugging the equipment from the energy source so long as the

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authorized employee performing the maintenance or servicing is in visual contact of the plug.

- 6.11.2 If the plug is not under exclusive control of the authorized employee, the plug must be locked and tagged following the lockout/tagout/tryout procedures.
- 6.11.3 If work is suspended for a period of time, (such as during breaks, lunch, or overnight), the plug must be locked and tagged following lockout/tagout/tryout procedures

### **6.12 Isolation of Process Lines and Blinding Procedure**

Isolation of process lines is accomplished to effectively isolate lines or process equipment to allow smaller areas to be purged, gas freed, and worked on, instead of complete systems. When lines or equipment are being prepared for Hot Work, Confined Space Entry, or when required by the Equipment Owner or Department Supervision, the line or equipment must be isolated by utilizing single valve blocking and blinding, valve blocking and line or spool removal, or valve blocking and plugging all attached piping. Prior to attempting process line isolation, Lockout/Tagout of applicable valves is required.

#### **6.12.1 Isolation of Process Lines:**

- 6.12.1.1 For site requirements pertaining to the isolation of process lines, please refer to HSP 307 – Safe Process Piping, Equipment & Vessel Opening procedure.

#### **6.12.2 Blinding**

- 6.12.2.1 Installation of a blind is considered process opening and shall comply with the requirements set forth in HSP 307 – Safe Process Piping, Equipment & Vessel Opening procedure.
- 6.12.2.2 Equipment shall be blinded when:
  - 6.12.2.2.1 Confined Space Entry is made;
  - 6.12.2.2.2 Conducting Hot Work on process equipment; or
  - 6.12.2.2.3 Removing equipment that creates an open-ended line beyond the shift

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- 6.12.2.3 The Equipment Owner will determine the exact location where the process lines are to be blinded.
- 6.12.2.4 The Equipment Owner will consult his isolation list for locations requiring blinding and lockout procedures.
- 6.12.2.5 Blinding tags will be filled out by the Equipment Owner and Maintenance Permit Recipient as described in the lockout/tagout/tryout procedure sequence. The entry location will then be placed on the Blind Tag by the Equipment Owner.
- 6.12.2.6 If an isolation location will require a blind to be installed in the line, the Equipment Owner responsible for the line or equipment will provide a Blind Tag and a nylon tie, to be used at the location where the blind is to be installed.
- 6.12.2.7 The nylon tie must be:
  - 6.12.2.7.1 non-reusable;
  - 6.12.2.7.2 self-locking; and
  - 6.12.2.7.3 minimum unlocking strength of 50 lbs.
- 6.12.2.8 The maintenance crew who installs the blind will attach the Blind Tag securely to the blind handle.
- 6.12.2.9 The Equipment Owner who verifies that the blind has been correctly installed will complete all entries, remove the bottom portion of the blind tag and sign in the appropriate location on the isolation list.
- 6.12.2.10 The preferred placement for blinds will be at the flange closest to the vessel, tank or equipment. Blinds may be installed at flanges farther from the vessel if the first location is not practical.
- 6.12.2.11 Blinds may be installed on the side of blocked valves that is most consistent with pressure testing requirements.
- 6.12.2.12 When spool pieces are removed, open lines may be effectively plugged or blind flanged before work on that

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equipment is allowed.

6.12.2.13 Blinds will only be installed or removed at the request of the Equipment Owner.

6.12.2.14 Blinding locations will be documented on an isolation list that has been approved by the Equipment Owner.

6.12.2.15 The Equipment Owner is responsible for assuring that line or equipment preparation procedures are used before the installation or removal of blinds.

### 6.12.3 Managing Common Blinds

6.12.3.1 The equipment Owner will ensure that a locking mechanism is used on the blind and all locks are installed to make sure that the common blind is not removed until all jobs are complete. (Ref 6.12.5.1)

### 6.12.4 Restoration of Process Lines and/or Blind Removal Procedures:

6.12.4.1 After maintenance/servicing has been accomplished to the Equipment Owner or designee's satisfaction, Maintenance will return equipment to production.

6.12.4.2 When Maintenance has removed the blind and restored the process lines to their original condition, they will then remove the Blind Tag and return it to the Equipment Owner or Department Supervision.

6.12.4.3 The Equipment Owner or designee will verify that the process line has been restored correctly. The Equipment Owner or designee will then check the corresponding box in Column (E) of Appendix B: Energy Isolation & Verification List.

### 6.12.5 Common Blind Removal:

6.12.5.1 Provisional comments may be needed on Safe Work Permits and the attached Appendix B: Energy Isolation & Verification List until all jobs are complete and the blind is removed.

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### 6.13 Appendix B: Energy Isolation & Verification List Requirements

At its foundation, the Energy Isolation & Verification List (Appendix B) and the corresponding Continuation Form provides a mechanism for:

- Documenting relevant information on energy isolation practices and providing a record that can be utilized prior to permit issuance as a means for diligently isolating all potential sources of hazardous energy (Columns A, B and C),
- Methodically verifying Energy Isolation and 'Zero Energy' in the field (Column D); and,
- Restoring equipment or machinery to normal operations (Column E)

6.13.1 Triplicate (WHITE, YELLOW and PINK) carbon copies of Appendix B: Energy Isolation & Verification Lists, **although not required**, shall be distributed as follows:

**Note:** Equipment Owner is still required to produce a 'Controlled Copy' of Appendix B to be kept on file under ACTIVE Lockouts.

6.13.1.1 After ALL required fields have been completed and required signatures have been provided in both 'Acknowledgement Sections':

6.13.1.1.1 The Permit Issuer retains the WHITE copy of Appendix B and it shall be maintained by the respective Unit/Dept at the Lockbox,

6.13.1.1.2 The Permit Recipient is issued the YELLOW and PINK copies of Appendix B. The YELLOW copy is required to accompany the Field (TAN) copy of the Safe Work Permit at the location where work is performed, and the PINK copy is retained by the Permit Recipient for his records.

### 6.13.2 Unit/Department Tracking and Management of Lockouts

6.13.2.1 Each Unit/Department shall adopt a system to track and manage ACTIVE and CLOSED Lockouts.

6.13.2.2 ACTIVE Lockouts are defined as Lockouts where the

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process or equipment has been removed from service/operation with energy isolated until Equipment Owners, under the direction of Unit/Department Supervision, restore the process or equipment to normal operation. ACTIVE Lockouts are:

6.13.2.2.1 Achieved and maintained by the Owner/Operations RED Lock and Tag remaining on the Lockbox until the removal of such is authorized, and;

6.13.2.2.2 Managed by the controlled copies of Appendix B being properly tracked and stored on file by each respective Unit/Department.

6.13.2.3 CLOSED Lockouts are defined as Lockouts where energy isolation, for the covered process or equipment, was determined as no longer necessary and the authorized Equipment Owner has successfully restored the process or equipment to normal operation as required. CLOSED Lockouts are:

6.13.2.3.1 Documented and communicated by the authorized Equipment Owner retrieving the appropriate controlled copy of Appendix B and completing Column E for the covered Lockout, and returning this copy to their respective Unit/Department Supervisor, and then;

6.13.2.3.2 Managed by Unit/Department Supervision through the continual management of controlled copies of Appendix B for all CLOSED Lockouts

6.13.2.3.3 ALL controlled copies of Appendix B (with Column E completed) for CLOSED Lockouts are required to be kept on file for thirty (30) days after the return-to-service date.

6.13.3 Each operating Unit/Department is required to produce and manage their pre-generated Energy Isolation & Verification Lists (Appendix B) for the control of hazardous energy with regard to equipment/vessels classified as Confined Spaces.

6.13.4 A copy of Appendix B: Energy Isolation & Verification List (with

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Column D completed and Acknowledgement signatures provided) will be produced prior to the issuance of each new Safe Work Permit for any maintenance or servicing work requiring the control of hazardous energy.

6.13.5 At a minimum, a completed copy of Appendix B shall:

- 6.13.5.1 Accompany the Field (TAN) Copy of the Safe Work Permit where the authorized work is being performed,
- 6.13.5.2 Be posted and maintained at the respective Lockbox for work performed under the covered Lockout and;
- 6.13.5.3 Contain and communicate the following information:
  - 6.13.5.3.1 Equipment name/number,
  - 6.13.5.3.2 Unit or area where work necessitating the control of hazardous energy is taking place,
  - 6.13.5.3.3 Printed name, signature, and initials (Column B) of the Equipment Owner(s) who performed Energy Isolation and verified Zero Energy,
  - 6.13.5.3.4 Description of each Energy Isolation Point in Column (A) provided with the Date of Energy Isolation in Column (C),
  - 6.13.5.3.5 Indication of the desired manner or position of Energy Isolation for each Energy Isolation Point (e.g. if locked OPEN, CLOSED or turned OFF etc.),
  - 6.13.5.3.6 Remarks and/or special precautions,
  - 6.13.5.3.7 Clearing Activities (for Confined Space Entries),
  - 6.13.5.3.8 Corresponding Safe Work Permit Number and Lockbox Number,
  - 6.13.5.3.9 Description of Task,
  - 6.13.5.3.10 Printed name, signature, and initials of Permit Issuer who verified Energy Isolation and Zero

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Energy in the field prior to Permit Issuance,

6.13.5.3.11 Printed name and signature of the Permit Recipient attesting to the statement provided in the 'Acknowledgement' Section.

### 6.14 Tanks Under Construction:

- 6.14.1 Tanks under construction that are not connected to process lines or other operating equipment are generally exempted from the rules governing lockout/tagout/tryout procedures.
- 6.14.2 Each case must be reviewed on an individual basis by Department Supervision.

### 6.15 Job-Made Slip Blinds:

- 6.15.1 Job-made slip blinds or Pancake blinds are to be cut from the appropriate material in the size desired. Blinds must be the correct diameter and flange rating and of sufficient thickness to withstand the pressures which may be encountered.
- 6.15.2 Specific attention should be given to cutting the blind handle as this will serve as a distinguishing characteristic of a blind versus a typical orifice plate.
- 6.15.3 Handles are to be painted red in color to provide a second means of identification.

### 6.16 Pipe Plugs:

Pipe plugs are alternative isolating devices for piping. Pipe plug procedures will follow the same requirements as blinds.

- 6.16.1 Pipe plugs will not be used without approval of the Unit Management.
- 6.16.2 Pipe plugs or plumbers/stoppers used in maintenance work should be of the appropriate pressure rating for the intended job. Pressures are usually stamped on the plug.
- 6.16.3 Work will not be performed in front of a line containing a pipe plug.

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6.16.4 Always clean inside the pipe prior to inserting a plug.

6.16.5 A mandatory in-line gauge is required to assure appropriate pressure is not exceeded.

### 6.17 Working On or Near Energized Electrical Equipment:

Due to the maintenance constraints and the need for operating continuity, it is sometimes necessary to perform tests and/or minor repairs to energized equipment and machinery. This procedure is designed to allow this type of work with a minimum danger to person and equipment. This procedure is not intended to replace the lockout/tagout/tryout procedure and should never be used when that procedure may be applied.

This procedure will be employed when it is necessary for maintenance to perform tests; inspections and/or trouble shoot process equipment and machinery in a way that may expose them to the danger of coming into contact with hazardous energy sources.

6.17.1 It is the primary responsibility of Department Supervision with consultation from the qualified and authorized Permit Recipient as to the necessity of employing this procedure.

6.17.2 Department Supervision must consider the possible impact on production and equipment should mishaps occur during the course of the work. Department Supervision will take all possible precautions as dictated by the nature of the work.

6.17.3 The Permit Recipient's first consideration will be the safety and qualifications of the personnel performing the work, and secondly, the safety of the equipment involved. A very deliberate approach in outlining the work to be performed and in enforcing all applicable safety precautions must be taken.

#### 6.17.3.1 Procedure for Working On or Near Energized Electrical Equipment:

6.17.3.1.1 When work will be conducted on or near energized equipment a Safe Work Permit must be issued by the Equipment Owner to the Permit Recipient. The Safe Work Permit must clearly state that work will be done on energized equipment and list any special requirements, including PPE and standby.

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- 6.17.3.1.2 When the work to be performed necessitates that an explosion-proof seal be broken in a classified area, that area will be tested for combustible mixtures before a safe work permit is issued.
- 6.17.3.1.3 When electrical testing requires that a technician work with a potential greater than 120 volts to ground, they will be accompanied by an observer who will not take part in the actual work, but will serve as a standby.
  - 6.17.3.1.3.1 The standby will be required to wear the same personal protective equipment as the person performing the work.
  - 6.17.3.1.3.2 The standby need not be an electrical technician, but anyone who is briefed beforehand as to the proper emergency procedures as detailed by the electrician
  - 6.17.3.1.3.3 At a minimum the emergency procedures will include the electrician wearing a non-conductive tag line if there are no options for remotely shutting off the power.
  - 6.17.3.1.3.4 The Permit Acceptor will employ all applicable safety precautions as dictated by the nature of the work. An individual working in an enclosure containing greater than 120 volts to ground will be required to wear goggles or face shield and rubber gloves rated at a voltage greater than the phase to phase potential available.
  - 6.17.3.1.3.5 If the work area must be left unattended at any time, it is the responsibility of the Permit Recipient and/or Permit Acceptor to secure all exposed energized equipment parts and to lock all associated switches before leaving. If

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the equipment cannot be secured, the area must be barricaded with Red Barricade Tape and posted with a sign stating “DANGER Live Electrical Equipment Authorized Personnel Only”.

6.17.3.1.3.6 During routine preventive maintenance, a Qualified Electrician isolating electrical equipment for their sole protection may lock the equipment with their Personal (BLUE) Lock without the additional Owner (RED) and Permit Recipient (YELLOW) Locks.

6.17.3.1.3.7 When the job is completed, the Permit Recipient will notify the Equipment Owner through Permit Return section located on the back of the Field (TAN) Copy of the Safe Work Permit.

### 6.18 Plugged Line Safety Procedure:

**Note:** This section is a subpart of this program and addresses uncommon tasks that are completed on irregular basis. It identifies the more hazardous materials and the basic steps to follow when dealing with each.

6.18.1 Operating Department personnel will prepare equipment to reduce risk of unnecessary exposure to personnel performing the job.

6.18.2 The section of line containing the pluggage shall be isolated to ensure that no hazardous energy is present.

6.18.3 Personal protective equipment must be used to protect personnel performing the work. Applicable Departmental Hazard Assessments and/or Operating Procedures should be referenced for PPE requirements.

6.18.4 The contained pressure must be released in some controlled, safe fashion. The methods authorized to release confined pressure are:

6.18.4.1 Bleeders - This is the most preferred method. Bleeders  
Printed controlled copy expires 24 hours after 12:46 PM on 11/1/2023.

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can be plugged but may be cleared using pressure, vacuum, or rodding (with caution).

- 6.18.4.2 Flanges - Red Barricade Tape the work area. Break flanges on opposite side of the line.
- 6.18.4.3 Drill Hole in Pipe - If there are no bleeders or flanges to release the contained pressure, a small pilot hole must be drilled to the center of the pipe. (An air-operated drill must be used for flammable materials.) Once the contained pressure has been released, the pipe may be cut using cold methods at the location of the drilled pilot hole. This method can be used only with permission from the Department Manager and Maintenance Manager. HSP-201 Hot Tap Permit must be followed.
- 6.18.4.4 This requirement also applies to long sections of plugged flanged piping that has been removed from its normal location. Multiple cuts require multiple pilot holes.
- 6.18.5 Permits must specifically describe the work to be done, equipment to be used, necessary personal protective equipment, special exposure precautions, and any other items deemed necessary by the operating supervisor. The Safe Work Permit must be clearly posted at the job site.
- 6.18.6 The scope of work can be changed only after a thorough supervisory review and a new permit is issued.
- 6.18.7 The work area must be barricaded to keep unprotected personnel out of the area.
- 6.18.8 All personnel performing work must know the location of the nearest safety shower and eyewash. When safety showers are either not available or not functioning properly, the job shall be delayed until this condition is corrected.
- 6.18.9 All lines shall be treated as they are liquid full and under pressure until the ends are broken and it has been determined that the line is not plugged nor does it contain any hazardous energy or material.
- 6.18.10 The Operations and Maintenance Supervisors will verbally

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## HEALTH AND SAFETY PROCEDURE 317 – CONTROL OF HAZARDOUS ENERGY

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review the safety considerations regarding that job as the last item prior to the start of the job. This safety reminder shall include the job specific PPE relevant to the job.

- 6.18.11 If the scope of work must be changed, plant or contract personnel must discuss the proposed method with their plant supervisor and gain approval. A new permit should then be requested and issued from Operations.

### 7.0 TRAINING

- 7.1 All technicians will receive annual control of hazardous energy awareness training for all authorized and affected employees. Affected employees will be instructed in the purpose and use of the hazardous energy control procedure.
- 7.2 Westlake provides additional detailed instructions to authorized employees on:
  - 7.2.1 The types and magnitude of hazardous energy at Westlake Plaquemine Operations;
  - 7.2.2 The potential hazards of process equipment and machinery which can store potentially hazardous energy;
  - 7.2.3 The methods and means necessary for energy isolation and control; and
  - 7.2.4 Proper use of hazardous energy control procedures.
- 7.3 All new employees will receive appropriate lockout/ tagout/tryout training prior to performance of any process equipment or machinery-related tasks.
- 7.4 Employees will reexamine procedures for hazardous energy control for any updated procedures or whenever changes in job assignment or process equipment and machinery occur.
- 7.5 Retraining will be conducted whenever a periodic inspection reveals that employees are not fully aware of or are not following established procedures, or if regulatory requirements change.

### 8.0 RECORDKEEPING

- 8.1 Training records will be kept on each employee.

Printed controlled copy expires 24 hours after 12:46 PM on 11/1/2023.

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- 8.2 Energy Isolation & Verification List and Appendix B Continuation Forms will be kept for one week upon work completion.

### 9.0 PROGRAM REVIEW AND ANNUAL INSPECTIONS

#### 9.1 Program Review:

- 9.1.1 This Westlake Control of Hazardous Energy Program will be reviewed at least every three years. H&S will ensure this review is performed. The purpose is to assess compliance, to ensure that all necessary employees are included, and to evaluate program effectiveness.
- 9.1.2 Following the review, the Control of Hazardous Energy Program will be revised to include any necessary changes. Review results will be documented. All employees will be informed of any changes made in the plan.
- 9.1.2.1 Safety Involvement Team will develop corrective action plans and schedules to address any deficiencies documented during reviews.
- 9.1.2.2 Corrective action plans will be submitted to H&S.

#### 9.2 Annual Lockout/Tagout/Try Inspections

Annual LO/TO inspections will be conducted to ensure compliance with OSHA's LO/TO Standard. (Appendix C)

- 9.2.1 The inspection will be conducted by authorized employees not involved in the energy control procedure being inspected.
- 9.2.2 All LO/TO documentation will be forward to H&S
- 9.2.3 The inspection shall include a review of:
- 9.2.4 All employee work practices involving activities and application of the hazardous energy control procedures;
- 9.2.5 Equipment and machinery energy isolating devices; and
- 9.2.6 Energy Isolation & Verification Lists.

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### 10.0 REFERENCES

- 10.1 American National Standards Institute (1982). "Safety Requirements for the Lock Out/Tag Out of Energy Sources." ANSI Z244.1, New York, NY.
- 10.2 American Petroleum Institute (February, 1983). "Safe Maintenance Practices in Refineries," API Publication No. 2007, Washington, D.C.
- 10.3 National Institute for Occupational Safety and Health (September, 1983). "Guidelines for Controlling Hazardous Energy During Maintenance and Servicing," DHHS (NIOSH) Publication No. 83-125, Cincinnati, OH.
- 10.4 Occupational Safety and Health Administration's 29 CFR 1910.147 (September 1, 1989). "The Control of Hazardous Energy (Lockout/Tagout)."
- 10.5 Occupational Safety and health Administration's 29 CFR 1910.332 (August 6, 1990). "Training."
- 10.6 Occupational Safety and health Administration's 29 CFR 1910.333 (August 6, 1990). "Selection and Use of Work Practices."

### 11.0 APPENDICES

- 11.1 Appendix A - Lock Removal Authorization Form
- 11.2 Appendix B – Energy Isolation & Verification List (Example)
  - 11.2.1 Addendum to Appendix B
- 11.3 Appendix C - Annual Lockout/Tagout/Try Inspection
- 11.4 Appendix D – Long Term Lockout Form
- 11.5 Appendix E – Tags used in the Control of Hazardous Energy

## HEALTH AND SAFETY PROCEDURE 317 – CONTROL OF HAZARDOUS ENERGY

### Revision History

| Rev | Changes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Approved  | Date       |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| 14  | Westlake Branding. Added Clearing Activities for Confined Space to the isolation list. Updated reference to HSP 307.<br><i>MOC: PLQ0.EHSSPSM.120117.4559</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | H. Garner | 1/12/2018  |
| N/A | Review only, no revision                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | H. Garner | 12/08/2020 |
| 15  | <ul style="list-style-type: none"> <li>- Procedure sections reorganized to improve flow</li> <li>- Updates to Appendix B</li> <li>- Addition of Appendix E</li> <li>- Adoption of PEM Corporate Minimum Standards</li> <li>- Roles &amp; Responsibilities added and updated</li> <li>- Terminology used throughout procedure updated to provide clarity and alignment with existing Permits and Processes</li> <li>- Requirement for Units/Departments to track and manage ACTIVE and CLOSED Lockouts</li> <li>- Updated process for "Single-point Isolation"</li> <li>- Clarifying language added to Sections 6.6 and 6.7 for the process of "Transfer of Authority" and "Permit Return &amp; Restoration of Equip/Machinery to Normal Operations"</li> </ul> | H. Garner | 10/3/2023  |



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Manager Approval: H. Garner

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### 11.1 Appendix A

## Lock Removal Authorization Form

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## HEALTH AND SAFETY PROCEDURE 317 – CONTROL OF HAZARDOUS ENERGY

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### LOCK REMOVAL AUTHORIZATION FORM

Refer to the Control of Hazardous Energy Program in the Safety Program and Procedures Manual.

**Policy:** It is the policy of Westlake Plaquemine Operations that no action will be taken to remove an isolation device belonging to another individual without this form being completed which is the written approval of management.

**USE THIS FORM FOR EACH INDIVIDUAL(S) LOCK(S) REMOVED**

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#### LOCK IDENTIFICATION

Employee's Name \_\_\_\_\_ Company \_\_\_\_\_  
Location of Lock(s) 1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_  
5. \_\_\_\_\_

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Reason for Removal: \_\_\_\_\_  
Equipment and Area Inspected by: \_\_\_\_\_  
Servicing/Repairs Verified Complete by: \_\_\_\_\_

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#### APPROVAL

Production Supervision \_\_\_\_\_ Date \_\_\_\_\_  
Maintenance Supervision \_\_\_\_\_ Date \_\_\_\_\_

**Notify the Main Guard Gate that an isolation device has been removed and give employee's name. The guard will void the employee's PIN number to prevent him/her from entering the plant until they have been made aware that their isolation device (lock) has been removed.**

**Note:** This form must be sent to the Health & Safety Department within 24 hours.

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**HEALTH AND SAFETY PROCEDURE 317 – CONTROL OF HAZARDOUS ENERGY**

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## **11.2 Appendix B**

### **Energy Isolation & Verification List**

## HEALTH AND SAFETY PROCEDURE 317 – CONTROL OF HAZARDOUS ENERGY

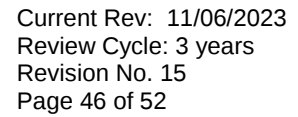
| Westlake                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                             | APPENDIX B: ENERGY ISOLATION & VERIFICATION LIST                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                    |                                  |                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|----------------------------------|----------------------------------|
| EQUIPMENT NAME/NUMBER:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                             | LOCKBOX #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | UNIT/WORK AREA:                    |                                  |                                  |
| TASK DESCRIPTION:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                             | SWP #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | WORK ORDER #:                      |                                  |                                  |
| <b>INSTRUCTIONS:</b> In accordance with HSP 317, the <b>Equipment Owner(s)</b> performing Energy Isolation will complete Columns (A), (B), and (C) for the required Energy Isolation Points listed below. <b>Verification of Energy Isolation &amp; Zero Energy is performed in the field between the Permit Issuer &amp; Permit Recipient prior to permit issuance.</b> Permit Issuers shall only authorize work activities upon completion of Column (D) & after ensuring that ALL Acknowledgement Signatures have been provided. |                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| (A)<br>Energy Isolation Points (e.g. electrical devices, valves, blinds installed, double blocks and bleeds, spools removed, etc.)                                                                                                                                                                                                                                                                                                                                                                                                  | Closed (CL)<br>Open (OP)<br>or OFF          | (B)<br>Energy<br>Isolated By:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | (C)<br>Date of<br>Isolation:       | (D)<br>Isolation<br>Verified By: | (E)<br>Removed<br>✓              |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CL / OP / OFF                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |
| <b>Equipment Owner(s) Acknowledgement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                             | <b>Permit Issuer &amp; Permit Recipient Acknowledgement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    |                                  |                                  |
| The 'Controlled Copy' of Appendix B shall be retained by the appropriate Unit/Department and kept on file until the job is complete for 'Removal' of Energy Isolation Devices (Column E).<br>By signing below, I am attesting to energy isolation being performed in accordance with HSP 317-Control of Hazardous Energy procedure for the equipment noted. All energy isolation points have been properly isolated, disconnected, and/or rendered inoperable etc. with 'Zero Energy' achieved & verified.                          |                                             | A completed copy of the Energy Isolation & Verification List is required to be maintained at the Lockout Device and issued with each Field (TAN) Copy of the Safe Work Permit.<br>By signing below, I am attesting to my participation in Energy Isolation & 'Zero Energy' Verification that was performed in the field. 'Zero Energy' has been achieved and verified (e.g. tried out start button, tested electrical circuit etc.) and appropriate Locks & Tags affixed in accordance with HSP 317-Control of Hazardous Energy procedure. |                                    |                                  |                                  |
| PRINT NAME: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                             | PERMIT ISSUER: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                    |                                  |                                  |
| SIGNATURE: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                             | SIGNATURE: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                    |                                  |                                  |
| PRINT NAME: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                             | PERMIT RECIPIENT: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                    |                                  |                                  |
| SIGNATURE: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                             | SIGNATURE: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                    |                                  |                                  |
| <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>PERMIT RETURN</b> </div>                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>* MAINTENANCE JOB STATUS UPDATE:</b> (✓) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/> COMPLETED |                                  | <input type="checkbox"/> ONGOING |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Blue Lock(s) removed from Lockbox? (✓)      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/> YES       |                                  | <input type="checkbox"/> YES     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Yellow Lock(s) removed from Lockbox? (✓)    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/> YES       |                                  | <input type="checkbox"/> NO      |
| <b>SPECIAL PRECAUTIONS / COMMENTS (NOTE: For jobs exceeding 20 Energy Isolation points, use Appendix B Continuation Form)</b>                                                                                                                                                                                                                                                                                                                                                                                                       |                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |                                  |                                  |

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## **11.2.1 Appendix B Continuation Form**

[illegible]



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Manager Approval: H. Garner

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## HEALTH AND SAFETY PROCEDURE 317 – CONTROL OF HAZARDOUS ENERGY

### 11.3 Appendix C

## Annual Lockout/Tagout/Try Inspection Form

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## HEALTH AND SAFETY PROCEDURE 317 – CONTROL OF HAZARDOUS ENERGY

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### ANNUAL LOCKOUT/TAGOUT/TRY INSPECTION

(To be completed at a time when a Lockout Activity is in progress)

UNIT \_\_\_\_\_ Equipment \_\_\_\_\_ DATE \_\_\_\_\_

LOCKOUT ACTIVITY IN PROGRESS: \_\_\_\_\_

EMPLOYEE(S) INTERVIEWED: \_\_\_\_\_

- \_\_\_\_ 1) Is the equipment isolation log for the lockout/tagout/try activities posted where all employees can review it?
- \_\_\_\_ 2) Have all lockouts been tried?
- \_\_\_\_ 3) Are lockout devices installed properly?
- \_\_\_\_ 4) Are any energy isolation points locked out, but not listed on Appendix B?
- \_\_\_\_ 5) Is any equipment on Appendix B: Energy Isolation & Verification List not locked out?
- \_\_\_\_ 6) Are all affected employees and/or contractors in the area aware of the lockout activities in progress and the specific equipment that is locked out?
- \_\_\_\_ 7) Are employees familiar with Westlake's lockout/tagout/try policy and procedures?
- \_\_\_\_ 8) Are contractors familiar with the lockout/tagout/try policy and procedures?
- \_\_\_\_ 9) If chains/locks are being used as interim lockouts for valves, are the chains tightly wrapped in such a way as to prevent operation of the valve?
- \_\_\_\_ 10) Are all lockout devices in good condition?
- \_\_\_\_ 11) Are all electrical breakers capable of being locked out?

AUDITED BY:

\_\_\_\_\_

REMARKS:

\_\_\_\_\_

\_\_\_\_\_

Deficiencies must be reported to management for mitigation. File audits in unit and route copy to Health and Safety.

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## **11.4 Appendix D**

### **Long Term Lockout Form**



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Date of Long Term Lock Out: \_\_\_\_\_

Unit or Area: \_\_\_\_\_

Equipment that is involved in the lockout: \_\_\_\_\_

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Reason for the Lock Out: \_\_\_\_\_

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Tag Number \_\_\_\_\_

Anticipated return to service date. \_\_\_\_\_

Employee performing the lock out. \_\_\_\_\_

Is an MOC established for this lockout? ☐ Yes ☐ No

Have all affected employees been notified (I&E, Maintenance, Shifts...) ☐ Yes ☐ No

If no was checked please state the reason.

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Manager (or designee) \_\_\_\_\_

*Signature*

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**HEALTH AND SAFETY PROCEDURE 317 – CONTROL OF HAZARDOUS ENERGY**

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## **11.5 Appendix E**

### **Tags used in the Control of Hazardous Energy**

## DANGER "DO NOT OPERATE" TAGS

BACK



BACK of White DANGER "DNO" Tag. Features a red "DANGER" header, "DO NOT REMOVE THIS TAG", a "Remarks:" section with lines, and "SEE OTHER SIDE" at the bottom.

FRONT



FRONT of White DANGER "DNO" Tag. Features a red "DANGER" header, "DO NOT OPERATE" in large letters, and fields for "Signed by:" and "Date:". The bottom includes the logo and text "BRADY® #65367 BRADY.COM".

**White DANGER "DNO" Tag**

BACK



BACK of Orange DANGER "DNO" Tag. Features a red "DANGER" header, "DO NOT REMOVE THIS TAG", a "Remarks:" section with lines, and "SEE OTHER SIDE" at the bottom.

FRONT



FRONT of Orange DANGER "DNO" Tag. Features a red "DANGER" header, "DO NOT OPERATE" in large letters, and fields for "TAG No.", "SIGNED BY:", and "DATE:". The bottom includes the logo and text "BY 101-44-00126".

**Orange DANGER "DNO" Tag**

## BLIND TAG

FRONT



FRONT of Yellow Blind Tag. Features a "BLIND TAG" header, "No. 33167", and a large section for "LINE TO BE BLINDED AND SIZE" with multiple lines. Other fields include "EQUIPMENT NAME", "EQUIPMENT NUMBER", "JOB DESCRIPTION", "TECHNICIAN", and "DATE". The bottom includes the logo and text "Westlake Chemical".

**Referenced in Section 6.12: Isolation of Process Lines and Blinding Procedure**

## LONG TERM LOCKOUT TAG

FRONT



FRONT of Long Term Lockout Tag. Features a "DANGER DO NOT OPERATE" header, "LONG TERM LOCKOUT" in large letters, and fields for "Name", "Date", "Area", "Equipment Number", "Equipment Name", and "Reason for Long Term Lockout". The bottom includes the number "0901".

BACK



BACK of Long Term Lockout Tag. Features a large "LONG TERM LOCKOUT TAG" in the center, surrounded by a black and white striped border.

**Referenced in Section 6.10: Long Term Lockout**