1. **Purpose**

The purpose of this procedure is to specify precautions to be taken when isolating equipment, pipelines and instrumentation between CAER member companies transporting chemicals to/from their facilities via pipelines. This inter-company procedure gives guidelines for initial prepping, equipment isolation methods, permitting requirements and additional notification requirements for all parties affected by the work. This procedure is intended as a supplement and not a substitute for the member companies lock out/tag out and line breaking procedures.

1. **Definitions**
   1. Cable Lockout Device
      * A device containing a seal and locking device that must be used on all valves associated with inter-company tagouts
      * This device wraps around a valve and prevents its operation via a lock
   2. Energizing Line
      * Any activity which imparts a hazardous energy source into the pipeline. This may be putting product into the line, but could also be drying the line with an inert gas, pressure checking the line with an inert gas or reactivating the external heat tracing on the pipeline
   3. Inbounding chemicals
      * Any gas or liquid transferred via pipeline into or out of a member company to another
   4. CAER tagout
      * CAER – acronym for **C**ommunity **A**wareness and **E**mergency **R**esponse
      * CAER tagout is a systematic procedure for isolating, documenting and tagging a pipeline system which affects two or more CAER company facilities. It may also include facilities which are not part of CAER but which are attached, facilitated or within close proximity to the pipeline system being worked.
   5. Hazardous Energy Source
      * Any electrical, mechanical, hydraulic, kinetic, pneumatic, chemical, thermal or other energy (e.g. radiation), including stored or residual energy, that if unexpectedly or inadvertently released, could cause injury to personnel or, if introduced into a process, could be hazardous.
   6. Hot Work
      * An activity that falls into one of the following categories:
        1. Flame or spark producing hot work means an operation that can produce enough heat from flame, spark or other means, such as friction, with sufficient energy to ignite combustibles or flammables. This includes electric arc and gas welding, grinding, cutting, burning, brazing, soldering and similar spark-producing or heat-producing operations
        2. Non-rated electrical equipment hot work includes the use of portable electric equipment and electronic devices in identified Electrically Classified areas and that are not listed or labeled for use in the Electrically Classified area
        3. Vehicle access includes the operation of electric, gas, diesel of internal combustion engines in Electrically Classified areas, unless the equipment has been approved for use in the area by a nationally recognized testing lab. For example, powered industrial trucks may be manufactured for use in specific Electrically Classified Area.
   7. Line Breaking
      * The opening of equipment which contained or may have contained a chemical, a hazardous energy source or may have been under pressure.
   8. Lockbox
      * A device containing the keys of locks installed on cable lock seals, valves, pumps and/or other energy sources. This device contains holes for the installation of personal locks on the outside of it which prevents the box from being opened.
   9. Pre-Startup Safety Review (PSSR)
      * The initiating company is responsible for all PSSR’s within the scope of this inter-company energy isolation.
   10. Piping System
       * That section of piping which must be isolated for service/maintenance. The piping system includes all isolation devices (i.e. valves, blinds, pumps, tracing) at every intersection of the piping and all companies.
       * A piping system which connects to two or more different companies may cross over property or effect other companies which are not tied into the piping system.
   11. Pipeline Owner
       * Party that will be responsible for initiating the inter-company prepping, isolation, mechanical work and return to service. Note this may or may not be the party financially responsible for the pipeline – “owner” indicates the party initiating and driving the pipeline outage.
       * In most cases, the facility that generates the transfer (i.e.: in control of transfer pumps or compressors) will normally be responsible for initiating the CAER Inter-Plant Energy Isolation procedure.
   12. Recharging Procedure
       * Written procedure identifying how product will be put back into the pipeline system following work
   13. Servicing/Maintenance
       * Work place activities such as constructing, installing, setting up, adjusting, inspecting, modifying and maintaining and/or servicing instrumentation, piping, machines or equipment.
2. **Scope**

This procedure applies to the preparation involved in isolating equipment from Hazardous Energy Sources to facilitate the servicing, maintenance, line breaking, equipment preparation and other work where there is a potential for exposure to the Hazardous Energy Source on equipment and instrumentation on piping between member sites.

This procedure is intended as a supplement and not a substitute for the member’s system and nonsystem lock out/tag out and line breaking procedures.

### Procedure

* 1. The key to successful implementation of work on pipelines between companies requires exact implementation in seven areas:
     + thorough Pre-isolation preparation
     + explicit communications methods
     + defined line preparation method
     + secure lock, tagout and try
     + exact work execution
     + detailed leak checking procedures
     + precise line recharging procedure.
  2. **Pre-isolation Preparation**: It is critical the company initiating work on the piping system communicate information to all other companies on the piping system. It is recommended that all companies affected by the work meet well ahead of the work and discuss the work in detail. Participants for this discussion should include the individuals physically responsible for the planning, prepping, isolating and supervising the mechanical work. The company initiating must hold meetings with all parties involved in the work to review the front end loading mechanisms and is critical all the parties be in the same room for the discussion. This should include not only the companies who are physically connected to the pipeline but also those companies that may own property that will be traversed, used for temporary storage of vessels (i.e. hot nitrogen trucks) or who may be affected by uncontrolled emissions to insure all property owner’s requirements are met. The following pre-isolation preparation information must be supplied by the company initiating work and requiring the inter-company tagout as far in advance prior to the work as possible:
     + Drawing of the piping system:
       - 1. Each company may not want to share proprietary P&IDs or the appropriate P&IDs showing the effected piping may be inaccurate. For these reasons, each company should provide a drawing to the pipeline owner that can be combined with other companies drawing of the pipeline system for all energy isolation points which will impact the work or tagout of the system.
         2. The pipeline owner will assemble one drawing of the entire pipeline system from those given to him by each company
         3. Prior to beginning the work, the pipeline owner should walk the pipeline in the field and in all companies to ensure that the drawing initiated is representative of what is in the field.
         4. The drawing will contain every energy isolation point on the piping system, including the first isolation point within all companies’ boundaries that tie into the piping system
         5. Every energy isolation point which will need to be isolated on the piping system will be number or otherwise specifically designated on the drawing
         6. This drawing should include any modifications to the pipeline which will occur during the pipeline outage. For instance, Company B may use the opportunity to tie into the Company A pipeline during the pipeline outage. If this occurs, additional energy isolation points will need to be added to the system after the Company B work is done. The original drawing must include this as it potentially impacts the pipeline isolation as well as subsequent line drying, pressure checking, recharging procedure.
         7. This drawing should include isolation points to be utilized not only in the pipeline work but for the drying, pressure checking and recharging of the pipeline system.
     + If possible, each company should disconnect/blind away as much equipment in their specific units prior to the pipeline prep work beginning. The less equipment tied to the pipeline, the more straightforward the line prep, tagout and recharge.
     + Job plan for all work done. This includes:
       - 1. Identification of the covered equipment, instrumentation or group of equipment which will be modified on the pipeline system
         2. All companies performing work which might impact the pipeline system or in a piping system directly tied to the pipeline system being work, should provide a description of that work as well.
         3. Many times, work on adjacent piping will impact the tagout of the main pipeline system or change the manner in which it is purged, dried or pressure checked after work.
         4. a list of the specific types and magnitudes of Hazardous Energy Sources
         5. identification of the safe position of each energy isolation device
         6. specific methods and isolation locations necessary for each energy isolation device
         7. specific steps and safeguards for prevention of release of Hazardous Energy Sources from the piping system
         8. proposed containment methods for any Hazardous Energy Source release
         9. specific proposed steps for safely shutting down, isolating, blocking, positioning and/or otherwise securing all equipment
         10. proposed prep plan for removing Hazardous Energy Sources from piping
         11. specified PPE for entering various companies’ facilities for all duties Facility specific PPE requirements will be needed not only for mechanical work but also for non-maintenance tasks such as tagging out valves, leak checking or supervising work. Such requirements may vary greatly between companies. Examples of differences in PPE may be thermal specific (i.e. Nomex® or other fire retardants), respirator specific (i.e. halogen vs. organic halide), eye specific (i.e. safety glasses with side shields), chemical specific (i.e. dosimeter badges, etc), hand specific (i.e. cotton vs. nitrile gloves), etc
         12. emergency response notifications – that is, if an emission occurs on another company’s property due to the piping work, who makes necessary notifications to governing bodies?
         13. If possible, initial line breaks should only occur during daylight hours and preferably on Day Shift
         14. If a safety incident occurs on the piping system in a remote area or within another company’s property, how/who will supply medical response? Are there any site specific safety incident reporting mechanisms that may be different from the company initiating work?
         15. Are there any laydown area requirements in remote areas of the companies involved on this work? For instance, there may be companies who are not tied into the piping system that may have to be contacted for permission to transverse their property or to act as staging or laydown areas for items such as temporary equipment, crane or trailer storages.
         16. **NOTE: if there is no line breaking being performed (ie simple isolation of the pipeline for turnaround) companies may waive the above information. However, if any work is or potentially will be done on the piping system the above has to be completed.**
     + It is possible that all companies connected to the piping system undergoing the service work may use the pipeline outage to perform work of their own within their own facility. These companies may also provide the same information as listed above as they will be working
  3. **Explicit Communications Method**
     + Explicit and clear communications involved in multi-company energy isolation is critical to the success of multi-company work. The initiating company will issue a list of all companies who may be involved or affected by this work. Items which make this successful are:
       - 1. Each company it to identify one source for communication. Where possible, all communications between companies are passed only by that one source. Keep in mind that pipelines may inbound to multiple units within the same company – to ensure precise communication, each company should mandate one source to speak for and coordinate the activities within that company’s multiple units

This source may be one position (i.e. a shift supervisor) and the person providing that source

* + - * 1. The initiating company will supply all companies involved a list of contacts at each company. The list should include numbers that can be reached 24/7/365.
        2. Providing communication devices (i.e. radios) between all companies involved in the work if possible. Direct radio communication is desirable during prepping, pressure checking and re-charging systems over cell phone or land phone lines. If direct radio communication is not an option, then review of the following is needed

Is it acceptable to use cell phones in all areas?

Do all parties have acceptable cell phone coverage in all areas?

If cell phones are acceptable, list all parties’ contact information

* + - * 1. Prior to work commencing, a test of all communication devices is to be performed.
  1. **Defined Line Preparation Method**
     + All parties involved in the piping system shall review and agree on a line preparation method. Typically, the consumer(s) of the pipeline will consume as much volume from the line as their processes will allow and then pressure the remaining material in the line back to the supplier’s process. The company initiating the work will coordinate with the pipeline owner:

1. will commence the CAER tagout paperwork with all parties involved in the work. Note that the documentation for the tagout requires numerous items to be done prior to the tagout beginning.
2. will perform a PSSR with all companies on the line to review the prep procedure
3. will ensure all safety interlocks, shutdown instrumentation, critical temperature/pressure indicators directly on the pipeline are functional prior to the line prep.
4. will ensure that any system used to prep the line into (i.e. sniff system, destruct system, tank storages, etc) is PM’d, has sufficient loading capacities of the line volume and inert gas associated with the prep and, in general can handle the prep volume. Care should be given to ensure that all instrumentation involved has been PM’d and checked to ensure it can take the prep volume and potential blow through of inert gas.
5. will review with all companies the rupture disk, PSE, PSV, PRV or other pressure relief devices’ settings of the line. During the line prep high pressure inert gas may be used on the pipeline and it is critical all involved know what the relief devices are sized and set at.
6. will ensure that any ambient monitoring devices surrounding the pipeline have been PM’d and are in satisfactory working order prior to any line prep beginning. All other companies on the pipeline should perform the same activities on any ambient monitoring devices in their respective areas
7. will determine how much product in the line is to be removed and notify the other companies of that volume
8. will provide a detailed, written procedure for the prepping of the line. Procedure will include where the product in the line is moved to and how that is done. It should also include actions to be taken with specific process indications to be followed (i.e. what pressure should be seen, what temperature should be observed, what flowrate should be obtained and for what length of time, how much product should be removed, etc.)
9. will designate in the prep procedure how tests or analyses will be done, where and by whom to determine the when pipeline will be product-free.
10. will identify and supply any safety or environmental precautions necessary during the sampling of the pipeline to determine it is product-free.
11. will specify which bleeders on the line are to be validated as product-free. Note that all valves connected to the pipeline should be operated and purged through to ensure they are product-free in advance
12. will determine if it is necessary to prep the line “across shifts”. If possible, line prepping should not continue through multiple shifts but should be done on one shift. If that is not possible, the pipeline owner will ensure a communication method exists to pass information between shifts of all companies
    * + If process material is to be pushed back to the supplier or towards a customer via an inert gas (i.e. nitrogen, argon or air) during the line prep, the pipeline owner is responsible for identifying the source of the gas and insuring that the gas used meets the service requirements. Such gas should be tested and validated to meet necessary criteria prior the line prep beginning.
13. For instance, if nitrogen is used to push material out of a liquid chlorine line, the nitrogen must have a dew point of -40 DEG F or lower.
14. It is imperative that all companies understand which inert gas will be utilized and the potential hazards associated with the inert gas to be used for the line prep. Depending on the nature of their operations, some companies may have specific requirements against the use of air, nitrogen, argon, oxygen, etc.
    1. **Secure Lock, Tagout and Try**
       * The pipeline owner and other companies will utilize the pipeline drawing for the isolation.
       * The pipeline owner will initiate the isolation of the pipeline system. Every isolation point directly connected to the pipeline system to be worked must be locked by the pipeline owner.
         1. The only exception to this is when a valve must be left open to a process for venting, vacuum or containment purposes. If this must be done, all companies will agree to this operation and note it on the documentation and the valve tagged.
         2. For air or nitrogen activated valves, the valve should be tagged in its fail safe position. The gas supply shall be locked close and the tubing/port disconnected in addition to locking the valve.
       * If the valve is not a locking valve, a cable lockout device must be used on the valve. This is a professionally produced product that allows sealing valves and then installing locks on the seal.
       * Locks will be installed on all valves or cable lockout devices. These locks for the intercompany tagout will be keyed the same – i.e. the same key will open all locks
15. this key is placed in the locked box
16. On each valve or energy source an orange, laminated, numbered CAER tag will be installed
    * + Any other energy entrant source that is not isolated via valves must be de-energized and locked. For instant, pumps/blowers connected directly into a pipeline system without valves must be de-energized and their respective motor control stations locked.
      + All companies will review the locked valves as a group and ensure that the valves locked by the pipeline owner encompass all energy inputs to the pipeline. Each company should physically validate the locked valves in the proper position throughout the pipeline system.
      + Once all companies agree that the pipeline system is sufficiently de-energized, all valves are in the fail safe mode and the pipeline system is properly isolated:
17. the pipeline owner will place the key to the lock for the pipeline system locks in a lockbox.
18. each company involved in the isolation of the pipeline system will then install one personal lock on the outside of lockbox. This will prevent access to the key for all locked devices from being energized until every company lock has been removed
    * + - * it is recommended that the locks installed on the outside of the lockbox be personal locks (ie keyed only for that lock). Use of locks for which may people within a unit has a key is strongly discouraged.
      + Attached to a lockbox will be the documentation package of the pipeline system.
19. This includes:
    * + - * Drawing of the pipeline system showing each lock/valve location
          * CAER paperwork (Includes phone numbers of locking plants, CAER tag location, CAER tag number, Lockbox location and designation, record of lockbox openings/closings, clearance to energize the line, clearance to recharge the line)
      + At times during the pipeline system outage it may be necessary to relocate a lock from one valve to another or to remove a locked valve/energy source altogether from the CAER tagout. To do this, all companies must meet and review the need for this action. If agreed to, all companies will go to the lockbox, remove their personal locks, allow the pipeline owner to relocate/remove the lock, update the CAER documentation and relock the lockbox
        1. Any CAER tag removed during this activity should be so noted on the documentation and any removed tag placed in the lockbox.
        2. Every time the lockbox is opened/closed for any activity, the date, time and reason for opening/closing the lockbox must be noted on the CAER paperwork. This is to ensure that all parties document and are aware of changes within the pipeline system.
    1. **Exact Work Execution**
       * During the execution of the work by all parties, daily updates on all work should be given to all companies. This communication can come via conference call, email, text, etc. Face-to-face meetings between all parties every two to three days is recommended to go over status of all work.
       * It is the responsibility of each company on the pipeline system to monitor work inside its facility on jobs that may be connected to the pipeline work but outside of the CAER system. Those companies may install operational tags on the CAER locks or valves or on the lockboxes dependant on each company’s requirements.
       * Permits to be generated for mechanical work will include a copy of the CAER tagout. In addition to the CAER, all companies will initiate permits as required by their individual departments.
       * Once the work is completed on the pipeline system, all companies will meet to remove the CAER locks and tags
    2. It is important that the CAER locks and tags be cleared prior to pressure checking or leak checking the system. This CAER procedure is designed for the isolation of the system and indicates that work is being performed on it. Not having a CAER tag on a valve/energy source should flag the party viewing that valve/energy source that part of the pipeline is energized.
    3. All CAER locks and tags are removed and the documentation so updated
    4. The company initiating the work validates that all locks and tags are removed and placed in the lockbox
    5. Each company may leave its own operational tags/locks on the valves on the line until the pipeline is ready to be energized. Situations may arise where one company may wish to continue doing maintenance within its facility while the pipeline is energized. If that occurs, the company may leave tits own operational tags/locks on the valves with the pipeline owner permission and a new CAER permit is needed for this separate scope of work. It is necessary the pipeline owner understands this as it may impact drying, pressure checking or recharging the line with product.
    6. **Detailed Leak Checking Procedures**
       * As the CAER tags have been removed from the system, the pipeline system is considered energized. Introduction of inert gas for leak checking, pressure checking and/or drying presents hazards and requires a written procedure and review by all parties tied to the pipeline system.
       * The energizing of the line will proceed in steps. These steps may be product dependent but typically include:
         1. leak check with an inert gas
         2. pressure check (often done in stages up to and exceeding expected line pressure)
         3. drying of the pipeline to a certain dew point
         4. removal of oxygen content of the line to a designated O2 percentage/ppm
         5. combustible indication below a specific LEL designation
         6. other product dependent steps may be required
         7. the order of the above steps may change depending on company conventions and product dependent needs
       * The pipeline owner should review the energizing procedure with all parties and perform a PSSR on this procedure with all parties. In many cases product or other energy sources may be on the other side of isolation valves within each company’s unit that is tied to the pipeline. It is critical that every company tied to the pipeline understand the timing and activities associated with the energizing and insertion of inert gas into the line.
         1. see requirements for inert gas analyses as listed in the line prep portion of this procedure
       * Prior to each step of the energizing of the line with inert gas, leak check, pressure check, drying, etc, all parties must sign the CAER documentation indicating they understand the status of the line. It is the responsibility of the pipeline owner to ensure that all parties sign this document and communicate this information to the necessary individuals within each company.
         1. it is understood that in the event of a leak on the line requiring mechanical repair, bolt tightening or replacement, the pipeline owner will initiate another tagout of the system. This tagout may or may not be different from the original CAER but the pipeline owner must be prepared to initiate one. In no situation should work on a pipeline system which is connected to multiple companies be worked without a CAER tagout
         2. it is recommended each company notify its operating personnel at each step of the energizing/leak check/drying procedure.
    7. **Precise Line Recharging Procedure**
       * Once the energizing of the line is completed via an inert gas, the pipeline owner will provide a written recharging plan for the recharging of product back into the pipeline.
       * Typically, the line is depressurized of inert gas from the leak check/ pressure check/drying activity. However, it is possible that the line will remain under inert gas pressure and product placed into the line. In this case, the pipeline owner will have in the recharging plan how the inert gas pressure will be vented or processed.
       * All companies on the pipeline will convene and sign the CAER documentation that the line is ready to charge with product.
       * All companies and surrounding or downwind facilities will be notified of the recharge process and timing.
       * Once all documentation is completed the product recharge can begin

**Energy Isolation Permit**

Date:\_\_\_\_\_\_\_\_\_\_\_\_ Time\_\_\_\_\_\_\_\_\_\_\_\_\_ Page \_\_\_\_\_of \_\_\_\_\_\_\_\_\_

Item Being Tagged Out \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lockbox Designation \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Company Initiating Tagout \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lockbox Location\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Companies involved in prep, tagout and recharge of line

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□ Drawing of all valves and system attached

□ Piping system walked prior to line prep to ensure ready for prep work

□ Written procedure for prepping line of product reviewed and made available to all companies

□ PSSR performed on line prep procedure

□ PPE required for entry into all companies sites reviewed and agreed to

□ Proper notification of authorities identified for all companies for safety, environmental, health incidents which may occur during this work

□ Specific communication issues discussed (ie radio channel usage, cell phone usage, contact numbers, etc) among all parties

□ Review of all PSV, PSE, rupture disk pressure settings and discharge paths in the event the line is overpressured

□ Piping/equipment is cool and safe to touch

□ Steam Tracing Removed/verified cool Describe\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ Radioactive Device Locked Out. Describe\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ Electrical equipment de-energized . Describe\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ Special lines removed/connected Describe\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Any Special Circumstances that must be connected to the pipeline or ongoing once the pipeline is locked out (i.e., does the line have to be under vacuum?) Describe: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contact names for those locking lockbox:

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| --- | --- | --- | --- |
| Plant | Name | Contact Number #1 | Email Address |
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Item Being Tagged Out \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lockbox Designation \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Company Initiating Tagout \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lockbox Location\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- | --- | --- | --- |
| CAER Tag # | Close/Opened/Blinded/  Disconnected | Lock/Tag Installed by | Tag Location Notes | Lock/Tag Removed by |
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Item Being Tagged Out \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lockbox Designation \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Company Initiating Tagout \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lockbox Location\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lockbox Opened/Closed #1:

DATE \_\_\_\_\_\_\_\_ TIME\_\_\_\_\_\_\_

Reason for Opening/Closing Box: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Personnel Locking Box:

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Lockbox Opened/Closed #2:

DATE \_\_\_\_\_\_\_\_ TIME\_\_\_\_\_\_\_

Reason for Opening/Closing Box: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Personnel Locking Box:

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Lockbox Opened/Closed #3:

DATE \_\_\_\_\_\_\_\_ TIME\_\_\_\_\_\_\_

Reason for Opening/Closing Box: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Personnel Locking Box:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Lockbox Opened/Closed #4:

DATE \_\_\_\_\_\_\_\_ TIME\_\_\_\_\_\_\_

Reason for Opening/Closing Box: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Personnel Locking Box:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Lockbox Opened/Closed #5:

DATE \_\_\_\_\_\_\_\_ TIME\_\_\_\_\_\_\_

Reason for Closing Box:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Personnel Locking Box:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Lockbox Opened/Closed #6:

DATE \_\_\_\_\_\_\_\_ TIME\_\_\_\_\_\_\_

Reason for Opening/Closing Box: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Personnel Locking Box:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Clearance to Energize Line**

Prior to energizing line:

□ All Locks have been removed from the lockbox and validated by

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ All CAER Tags and Locks have been removed from process and validated by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ All parties have removed operational locks/tags and ready to energize \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ Line will be energized initially with what gas/chemical if not typical product \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Energizing Pipeline #1 Step: Date:\_\_\_\_\_\_\_\_\_\_\_\_\_ Time:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ Details on Energizing Pipeline: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Energizing Pipeline #2 Step: Date:\_\_\_\_\_\_\_\_\_\_\_\_\_ Time:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ Details on Energizing Pipeline for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Energizing Pipeline #3 Step: Date:\_\_\_\_\_\_\_\_\_\_\_\_\_ Time:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ Details on Energizing Pipeline for: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Energizing Pipeline #4 Step: Date:\_\_\_\_\_\_\_\_\_\_\_\_\_ Time:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ Details on Energizing Pipeline for: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Energizing Pipeline #5 Step: Date:\_\_\_\_\_\_\_\_\_\_\_\_\_ Time:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ Details on Energizing Pipeline for Leak Check: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Clearance to Charge Line with Product**

Prior to charging line with Product:

□ Line has been depressured from energizing and is ready for product entry \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ All parties agree that the line is ready to charge with product

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