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1.0 PURPOSE

- 1.1 To establish a uniform procedure to be followed by all MPC employees and contractors to ensure that all work conditions and equipment are safe, and will remain so, while work is being performed. Also, to follow company basic practices, applicable standards, regulations, and industry best practices for permitting work.
- 1.2 In general, this work permit program shall accomplish the following:

- 1.1.1. To verify, in writing, that proper safeguards and precautions have been taken to minimize the possibility of personnel injury and property damage during maintenance, repair, or construction activities such as cold work, hot tap/stopple, vehicle entry, hot work, and confined space entry operations.
- 1.1.2. To inform owning department personnel of every maintenance, repair or construction activity being performed in their area(s) and/or on their equipment, so that proper safeguards can be taken to protect people and facilities from possible hazardous situations.
- 1.1.3. To inform owning department personnel when maintenance, repair or constructions activities in their area(s) and/or on their equipment have been properly completed.
- 1.1.4. To inform maintenance and contractor personnel of the proper safeguards necessary for their activity.
- 1.1.5. To define specific requirements and procedures for each use of the work permit.
- 1.1.6. To define the work scope of the work being performed for both operations and maintenance personnel.

2.0 SCOPE

- 2.1 A work permit is required for all maintenance, repair, or construction activities such as cold work, vehicle entry, hot tap/stopple, hot work or confined space entry, on equipment or within areas owned or operated by the operations, maintenance (e.g. electrical substations), third parties, and the safety departments. Any exceptions to work permit requirements that are not specifically defined in this procedure must have written approval on the HESS Standard Practice Variance Form.

3.0 STANDARDS/REFERENCES

3.1 MPC Reference

- 3.1.1 RSP-1121-010 Blinding and Energy Isolation
- 3.1.2 RSP-1121-020 Safe Entry into Inert Atmospheres
- 3.1.3 RSP-1128-000 Safe Work Permit
- 3.1.4 SAF-4005 Confined Space Entry
- 3.1.5 RSP- 1127-000 Confined Space Entry Standard Practice
- 3.1.6 RSW-A-003-GV Exposure Control Measure Requirements for Maintenance/Construction Operations
- 3.1.7 RSW-A-002-GV LRD Protective Equipment Selection Guide
- 3.1.8 RSW-A-001-GV PPE Reference Guide
- 3.1.9 RSW-0109-GV Blinding & Energy Isolation Standard Practice
- 3.1.10 RSW-A-024-GV Continuous Monitoring Standard Practice

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- 3.1.11 **RSW-0106-GV** **Confined Space Entry Standard Practice**
- 3.1.12 **RSW-0143-GV** **Safe Entry into Inert Atmospheres Standard Practice**
- 3.1.13 **RSW-A-028-GV** [Safe Work Permit Flow Chart](#)

3.2 Industry References

- 3.2.1 **American Society of Safety Engineers (ASSE)**
- 3.2.2 **ASSE Z117.1 Safety Requirements for Confined Spaces**
- 3.2.3 **American Petroleum Institute (API)**
- 3.2.4 **API RP 2016 Guidelines and Procedures for Entering and Cleaning Petroleum Storage Tanks**
- 3.2.5 **API PUBL 2026 Safe Access/Egress Involving Floating Roofs of Storage Tanks in Petroleum Service**
- 3.2.6 **API STD 2015 Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks**
- 3.2.7 **API STD 2217A Guidelines for Safe Work in Inert Confined Spaces in the Petroleum Industry**

3.3 Regulatory References

- 3.3.1 **29 CFR 1910.146** **Permit Required Confined Spaces**
- 3.3.2 **29 CFR 1910.147** **Control of Hazardous Energy (LOTO)**
- 3.3.3 **29 CFR 1910.119** **Process Safety Management**
- 3.3.4 **29 CFR 1910.1200** **Appendix E, Hazard Communication Standard**
- 3.3.5 **29 CFR 1926 Subpart AA Confined Spaces in Construction**

4.0 DEFINITIONS

- 4.1 **Attended Work** - Any work in a permitted area that is physically monitored.
- 4.2 **Blanket Work Permit** – a work permit that allows a servicing group to perform work in multiple locations within a unit.
- 4.3 **Blinding** - The absolute closure of a pipe, line, or duct, achieved by fastening a solid plate, threaded plug, or cap across its bore to completely cover it. The cover must:
 - (a) at least cover the outer edge of a flange's mating surface, and
 - (b) be capable of withstanding the maximum upstream system pressure and isolation blind pressure.

Blinds include blanks, slip plates, blind flanges, threaded caps, physical disconnects.

The three types of blinds utilized include:

- (a) Isolation,
- (b) Hydrotest, and
- (c) Permanent.

- 4.4 **Cold Work** - Maintenance repair, cleaning, or construction activity, not requiring the use of fire, hot surfaces, spark producing equipment, or electrical equipment that is not classified for use in the area. Also, see the definition of "Hot Work." Examples of cold work include:
 - Hand tools
 - Brass wedges

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- Brass maul
- Any torquing / tensioning equipment (i.e., rad gun, j gun, hydraulic tensioners, nut splitters, etc.)

4.5 **Contractor Coordinator** – Normally the MPC employee in charge of coordinating contract companies on jobs. However, on new construction projects, the construction management coordinator hired by MPC may be designated as the Marathon Contractor Coordinator.

4.6 **Confined Space** – See RSP-1127-000 Confined Space Entry Standard Practice and LRD Confined Space Procedure RSW-0106-GV.

4.7 **Energy Isolation** – See Refining Blinding and Energy Isolation RSP-1121-010 and LRD Energy Isolation and Blinding RSW-0109-GV procedures.

4.8 **Hazardous Atmosphere** - An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from the following causes:

- flammable gas, vapor, or mist more than 10% of its lower explosive limit (LEL),
- airborne combustible dust at a concentration that meets or exceeds its LEL (Note: This concentration may be approximated as a condition in which the dust obscures vision at five feet (1.52 m) or less.),
- atmospheric oxygen concentration below 19.5% or above 23.5%
- atmospheric concentration of any substance for which a permissible exposure limit is published in Subpart Z, Toxic and Hazardous Substances of 29 CFR 1000 and which could result in employee exposure in excess of the permissible exposure limit (Note: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, and impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.), and/or
- any other atmospheric condition that is immediately dangerous to life or health (Note: For air contaminants for which OSHA has not determined a permissible exposure limit, other sources of information, such as Safety Data Sheets that comply with the OSHA Hazard Communication Standard, 29 CFR 1910.1200, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.).

4.9 **See LRD Hazard Characterization & Respiratory Protective Equipment Selection Guide for a compilation of normally encountered vapor and gas hazards.**

4.10 **Hot Tapping (pressure tapping)** – See the In-Service Welding and Hot Tapping Procedure (RDP-E200-GV) for detailed permit requirements for hot taps.

4.11 **Hot Work** – Repair, maintenance, or construction activity, which requires the use of spark-producing equipment or may create an ignition source.

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4.11.1 **Attended Hot Work (Hot Work A)** – Hot work that must be always attended by a designated fire watch with a dedicated means of extinguishment. Examples of attended hot work include (not all inclusive):

- Electric arc welding
- Annealing - electric or gas
- Use of open flames
- Firing dope pots and field boilers
- Chipping, ripping, grinding or other cutting by impact.
- Use of non-process propane or gas fired heaters.
- CAD welding
- Electric soldering

4.11.2 **Non-attended Hot Work (Hot Work B)** – Hot work that does not need a designated fire watch with a dedicated means of extinguishment. Examples include (not all inclusive):

- Vehicle entry
- Breaking concrete
- Use of non-explosion proof electric equipment (heaters, coils, extension cords, tools, lights, etc.).
- Devices with a heat source
- Battery-operated non-explosion proof equipment, e.g., cameras, flashlights, drills
- Sandblasting
- Impact Wrench
- Use of internal combustion engines
- Opening explosion-proof enclosures
- Use of pneumatic drills, saws, pencil type grinders, water cutting
- Grass cutting in dike area.

4.12 **Immediately Dangerous to Life or Health (IDLH)** – Any condition that poses an immediate or delayed threat to life or would cause irreversible adverse health effects or interfere with an individual's ability to escape from a confined space.

4.13 **IDLH Atmosphere** – Any area that may have an atmosphere that is immediately dangerous to life and health.

4.14 **Inert Confined Space** – See the Inert Confined Space Procedure for specific inert confined space entry definitions and requirements.

4.15 **Inherently Safe Area** – An area that is generally free from hydrocarbons (non-classified). These areas include the office buildings, maintenance shops, substations, designated fabrication sites, laydown yards, and non-process areas.

4.16 **In-Service Welding** – See the site-specific In-Service Welding and Hot Tapping Procedure (RDP-E200-GV) for detailed permit requirements for in-service welds for this activity.

4.17 **Invasive Work** - Work that expects to require exposure to the internals of a vessel, pump, exchanger, or any other piece of refinery equipment.

4.18 **Joint Job Site Visit** – A meeting between an owning department representative and at least one servicing representative of all parties working off the permit at the specific location where the job will be conducted. The meeting discussion will address the work scope and all safety aspects of the permit. The servicing representative that attends the

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joint job site visit must convey the information covered in the joint job site visit to all members of their work party.

4.19 **Non-Invasive Work** – Any cold work or hot work being done where there is no potential for contact with product exposure hazards, process hazards, vessels, pumps, electrical breakers, piping, or any other piece of refinery equipment.

4.20 **Owning Department** – The term “owning department” refers to the department that owns and operates an area either process, or non-process related. This includes utility equipment, machinery, building, and/or systems.

4.20.1 For process areas the owners are Operations/Product Control.

4.20.2 In non-process areas such as buildings, designated fabrication shops, lay-down yards this will generally be the Maintenance and/or Engineering department.

4.20.3 The Electrical Department has ownership of all electrical substations within the refinery.

4.20.4 For the Sulphur Loading Rack, Coke Drum, Coker Belts, Docks, and the Thermal Desorption Unit this will be performed by Contractor acting as Owners.

4.21 **Oxygen Deficient Atmosphere** – Any atmosphere containing less than 19.5% oxygen by volume.

4.22 **Routine Maintenance** – Maintenance work that is routinely conducted in an area.

4.22.1 In a process area, routine maintenance will include the following: insulating, vibration monitoring, and U.T. monitoring.

NOTE: Exception to routine maintenance, requiring a Safe work permit requirements include operator performed cold work, and leak detection and repair (LDAR) monitoring only.

4.22.2 In office buildings, this includes the following: hanging pictures/shelves, fixing doors, plumbing repairs, repairing sheet rock, assembling/moving furniture, painting, changing light bulbs, replacing ceiling tiles/grid, HVAC PMs, and Electrical PMs.

4.22.3 In substations, this includes the following: fixing doors, changing light bulbs, HVAC PMs, and Electrical PMs (excluding Ultrasound and Infrared testing).

4.22.4 In zone shop/maintenance shops and designated fabrication areas, this includes the following: grinding, cutting, welding, painting, assembling/moving furniture, changing light bulbs, HVAC PMs, and Electrical PMs.

4.22.4.1 For detailed requirements on designated fabrication areas see RSW-0185-GV Hot Work.

4.22.5 In non-process/laydown areas, this includes the following: equipment moving, material storage/sorting, and earth moving (non-excavation).

4.23 **Safe Work Permit** – A work-authorizing process and record that is managed prepared and issued by the Refining department that “owns” the equipment or is responsible for the area before certain work is conducted.

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NOTES

It authorizes a specific scope of work for a specific time frame and is a prerequisite for performing work.

It is used to assess hazards and to document requirements and conditions such as atmospheric monitoring results, personal protective equipment, confined space details, work requirements (e.g., hot tap, excavation, critical lift), emergency communications, and other potential hazard mitigation means and methods.

The authorization coordinates and controls the work and is a form of agreement between the Safe Work Permit issuer and all personnel involved with the work.

- 4.24 **Servicing Representative(s)** - The people who are working on the equipment/process. This may include operations, blending shipping, maintenance, contractors, and salaried employees.
- 4.25 **Stoppling** – The site specific In-Service Welding and Hot Tapping Procedure (RDP-E200-GV) covers detailed permit requirements for stoppling, as appropriate.
- 4.26 **Vehicle Entry** – Defined as any passage of a motorized vehicle across the battery limits of an operations complex, or into a tank farm diked area, or into any area where classified electrical equipment is required. Vehicle entry is a form of non-attended hot work.
- 4.26.1 Equipment making deliveries to a unit (i.e., forklift, drott, etc.) can be escorted in by an Operator with an atmospheric monitor without a permit. Equipment remaining in the unit to work will require a work permit.
- 4.26.2 Liquid Nitrogen trucks with flame heaters that are stationed inside battery limits may be issued Hot Work B permits provided the operator of the truck does not leave the vehicle unattended at any time.
- 4.27 **Work Party** – Includes all personnel whose tasks are covered by the work permit.
- 4.28 **Work Permit Extensions** – The extension of the work permit by the owning department at the end of the maintenance shift or at the end of 12 hours. As conditions warrant, a work permit may be extended one time, for a period of 12 hours but not exceeding 24 hours in total.
- 4.29 **Work Scope** – The type and detailed description of the work to be performed, including the equipment to be worked on and the personnel performing the work.

5.0 RESPONSIBILITIES

It is the responsibility of each department to safely control all activities carried out in their respective units or areas. This requires the proper authorization for all work done on or near operating equipment and facilities. In addition, this responsibility includes dictation of precautions and conditions under which any maintenance or contract work will be performed. Where changes in conditions or other situations may occur that affect the work, operating personnel must ensure that safe conditions and procedures are maintained and have the duty to modify or cancel the Work Permit if safe conditions & procedures are not maintained.

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5.1 Owning Department Supervision

- 5.1.1 Ensure that management processes are in place to carry out the appropriate functions of the work permit system.
- 5.1.2 Ensure that all persons within their areas of responsibility have received the appropriate work permit training.
- 5.1.3 Ensure that work permits are being filled out completely and correctly.
- 5.1.4 Ensure that equipment is properly prepared to be turned over to maintenance.
- 5.1.5 Co-sign all initial confined space entry permits.
- 5.1.6 Forward the completed/cancelled work permit to the Safety Department, who is responsible for records retention of permits.
- 5.1.7 Ensure participation by the permit writer with the permit users in the joint job site visit.

5.2 Owning Department Personnel

- 5.2.1 Issue Work Permits to authorize work in their areas of responsibility.
- 5.2.2 Participate in the joint job site visit, as required.
- 5.2.3 Prepare equipment (such as purging, isolating, decontaminating, lock-out/tag-out, etc.) for release to maintenance so it is safe for the intended work.
- 5.2.4 Identify and communicate any remaining hazards associated with the work and the actions required to safely work with or mitigate the hazards.
- 5.2.5 Conduct or arrange for any initial and follow up atmospheric testing or monitoring required to demonstrate the safety of the job site.
- 5.2.6 Document the following on the permit:
 - Name of company performing work.
 - Equipment being worked on.
 - Specific scope for duration of permit and time period in which permit is valid.
 - Type of work.
 - PPE requirements (beyond hardhat, safety glasses, etc.) or other means to mitigate the hazard such as blinding, ventilation, purging, etc.
 - Results of atmospheric testing.
 - Any other tasks communicated by maintenance that must be conducted as part of the work, such as placing scaffolding, making electrical disconnects, placing cranes, etc.
 - That a joint-job-site visit was conducted if required.
 - The person issuing the permit from the owning department makes sure that both equipment owners and servicing representatives have signed the permit before work begins. A reference to any other permits or other documentation used to ensure safety of the work.
- 5.2.7 Ensure that the equipment for release to the servicing representative(s) and the environment surrounding the job are in a safe condition.
- 5.2.8 Ensure that the permit recipients fully understand the requirements of the work permit and take appropriate action, as necessary.

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- 5.2.9 Notify their supervisor with any questions or concerns regarding the job or the work permit.
- 5.2.10 Ensure that work proceeds safely within the terms of the work permit relevant to their assigned responsibilities.
- 5.2.11 Periodically (at least once per shift) visit permitted job site(s) and verify that work is being performed in compliance with work permit requirements.
- 5.2.12 Ensure the correct issuance and cancellation of work permits in the area and/or equipment under their control.
- 5.2.13 Extend work permits.
- 5.2.14 Transfer responsibility for the work permit when there is a change in permit writers or shifts.
- 5.2.15 Notify maintenance to stop work if there is an operating emergency, conditions change that could affect the safety of the job, or if permit conditions are not being met.
- 5.2.16 Inform the operations shift relief of any maintenance work in their area.
- 5.2.17 Ensure the job has been checked for completeness and all maintenance signoffs are made as required by permit before placing the equipment in service at the completion of work.

NOTE

When Owning Department personnel are re-issuing confined space permits over multiple shifts, the permit writer must review the last permit written for the space and ensure that all PPE, respiratory protection, and other safety requirements which are required on the previous permit are transferred to the new permit. The permit number of the previous permit for the confined space must also be written on the new permit. If the old permit cannot be found, then the Safety Department or Shift Supervisor must re-evaluate the space.

- 5.2.18 Cancel the work permit if the conditions of the permit are not being met by the work party or area/equipment conditions require a work stoppage.
- 5.2.19 Forward the completed/canceled work permit to the Safety Department for records retention of documents.
- 5.2.20 The owning department will be available for consultation during maintenance work. The owning department shall inform the servicing representative(s) of any changes in conditions which would affect the job, or any operating emergency.

NOTE

When Confined Space permits will be re-issued across multiple work shifts, such as during turnarounds, the permits shall all be written in the same permit book and no other permits should be written in this book. It is permissible to use the same book for similar spaces in the same area (e.g. exchangers)

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5.3 Servicing Representative

- 5.3.1 Ensure that the joint job site visit has been performed, as required.
- 5.3.2 Ensure that all work carried out by personnel under their control is covered by a valid work permit, when required.
- 5.3.3 Ensure that work proceeds safely within the terms of the work permit.
- 5.3.4 Ensure the permit recipients fully understand the requirements of the work permit.
- 5.3.5 Understand the limitations and restrictions of the work permit in order that the work may proceed safely.
- 5.3.6 Prior to performing work, ensure that all members of the work party adhere to all safe working practices and are fully familiar with the limitations/restrictions described on the work permit.
- 5.3.7 Ensure that all precautions specified on the work permit are complied with.
- 5.3.8 Ensure that the owning department is made aware of any changes in work conditions, work content or work scope.
- 5.3.9 Ensure that the work described on the work permit is completed or left in a safe condition if not completed.
- 5.3.10 The servicing representative must notify the owning department before progressing, if the scope of the job changes or if the conditions in the area around the job have changed such that it could impact the safety of the work being done.
- 5.3.11 Ensure that contractors comply with all MPC's refinery safety rules.
- 5.3.12 Provide an ongoing liaison between contractors and MPC personnel.
- 5.3.13 Ensure that all members of the work party adhere to all safe working practices and are fully familiar with the limitations/restrictions described on the work permit.

5.4 Permitted Work Party

- 5.4.1 Communicate to operations the execution requirements and scope of the job, to ensure mutual understanding.
- 5.4.2 Participate in the joint job site visit, as required.
- 5.4.3 Ensure that work proceeds safely within the terms of the work permit.
- 5.4.4 Notify their supervisors and MPC Owning Department of any changes to the job site or required changes to the work scope.
- 5.4.5 Convey any potential hazards they will introduce to the job site as a result of performing work that must be addressed.
- 5.4.6 Read and understand the work permit and sign on and off the permitted job.
- 5.4.7 Complete the "Return of Equipment / Work Area Job Completeness" portion of the work permit (Section VII).

5.5 Safety

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- 5.5.1 Co-sign all initial confined space entry permits including excavations over 4 ft. in depth. The Safety Department, at their discretion, may co-sign other permits they are involved in to ensure specific safety requirements are met.
The Operations / PC Shift Supervisor may sign an initial confined space permit in lieu of a Safety Department representative.
- 5.5.2 Periodically audit job sites to determine compliance with the work permit. Correct unacceptable conditions immediately and provide feedback, both positive and negative, to the owning department.

NOTE

All employees have the obligation to stop any job or activity if he/she becomes aware of an eminently dangerous situation.

5.6 Training Department

- 5.6.1 Provide training materials that have been prepared in conjunction with the safety department that adequately prepare permit writers and users to be compliant with the work permit process.
- 5.6.2 Schedule Permit Writer training and maintain records of the training provided.

6.0 GENERAL REQUIREMENTS: All Work Permits must be issued in accordance with the [Safe Work Permit Flow Chart RSW-A-028-GV](#) found in the reference section of this standard practice and the instructions contained herein before the performance of any type of work or activity.

- 6.1 Both the Owning and Service Representatives have obligations to each other while work is progressing. Any unanticipated changes (hot work required, confined space entry required, change in blind locations, additional tasks, etc.) in job scope during the work will require the permit to be reissued or updated.
- 6.2 The Risk Assessment Matrix (RAM) score and the appropriate mitigation shall be noted on the permit by the Owning Representative while performing invasive work.
- 6.3 This procedure must be strictly adhered to, a variance must be submitted and approved by the designated parties on the Variance Form for any deviation.
- 6.4 An initial work permit is only valid for a period of up to 12 hours (or less time as indicated on the permit) and can only be extended for a period of 12 hours immediately after the initial 12 hours.
- 6.5 Work permits must be retained for 36 months (3-years). Confined Space entry must be retained for 30 (thirty) years plus life of the Company. The tan copy of all Confined Space Permits and additional entry rosters must be returned to the Safety Department along with the completed Confined Space Permits.

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- 6.6 If the scope of the work changes during the covered work permit period, the servicing representative(s) must STOP WORK, and notify the owning department to verify the adequacy of equipment and site preparation for the change in work scope. If the owning department approves the change in the scope of work, then the work permit must be updated to reflect the scope change and any new requirements, or a new permit must be written to cover the new scope of work.
- 6.7 If the scope of work changes during the covered work permit period, the operator must notify the shift foreman or operations maintenance coordinator. Operations shift foreman or operations maintenance coordinator shall review and approve all work scope changes. Work scope changes shall be documented on the current work permit unless a new work permit is required. Work scope changes for Hot Work A, Confined Spaces, Invasive Work, and Hot Taps on the permit shall be initialed by all parties involved.
- 6.8 If the servicing representative(s) crew changes any time during the permit period, the relief servicing representative(s) supervisor/crew leader must contact the owning department to inform them of the change. The service representative supervisor/crew leader and/or the owning department must review the work permit with the new personnel and if required by the task (e.g., confined space entry or hot work) document the personnel change on the permit.
- 6.9 If there is a shift change of owning department personnel involved with the work, the work permit must be updated with the name/signature of the oncoming owning department person and the work permit be revalidated if necessary. Communication with the servicing representative(s) must be as thorough as when the original work permit was issued. A determination as to the need for additional gas testing or a re-validation is required. At shift change, each owning department shall inform their relief of any active work on-going in their unit or area.
- 6.10 In the event there is a change in the supervision of the service representative(s), the work permit must be reviewed by the owning department and the new service representative(s) supervisor/crew leader. The oncoming service representative supervisor/crew leader must accept the conditions on the work permit and sign the field copy as an acknowledgement and acceptance of the permit conditions.
- 6.11 The servicing representative(s) will inform the owning department when the work is or will be complete. The owning department and servicing representative(s) shall then visit the work site to review the completed work and work site cleanup. They will also discuss the status of the equipment and area surrounding the work site, status of lockout/tag out, special concerns, returning the equipment to service. When completed, the owning department and servicing representative(s) signoffs can be executed.
- 6.12 Copies of Confined Space shall be prominently displayed by the person receiving the permit at the access to the area covered by the permit (such as the man way to vessel or tank), or at the location where the work is being perform (such as pump, flange, line or entrance into tanks, dikes, etc.). The permit shall not be removed from the work site while work is in progress.
- 6.13 The original permit will remain in the permit book.

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6.14 Cold work, Hot Work A and B permits can be left in the red boxes located in the unit.

6.15 Each geographical or unit area supervisor shall be responsible for the issuance, maintenance, and ensuring compliance of all Work Permits in their area. The Shift Supervisor, Maintenance Personnel and/or an MPC Field Representative will issue Work Permits to contractors under their specific control in those areas that are outside of normal unit/area boundary limits.

6.15.1 No work shall be permitted to Safe Haven buildings without notification to the 001 Refinery Supervisor. The 001 Refinery Supervisor will determine if the work compromises conditions established to maintain Safe Haven requirements and will permit accordingly. Materials or deliveries requiring doors to remain open for short periods of time may be permitted verbally at the discretion of the 001 Refinery Supervisor.

6.16 Routine/Normal Maintenance Installation of Blinds

6.16.1 The installation and removal of blinds shall be covered under its own permit.

6.16.2 Permits to install or remove blinds shall be written per piping system and **shall not** be covered under a blanket permit.

6.16.2.1 **Exception:** When End/Blinds/Blind Flanges are installed to mitigate open-ended lines (e.g., PSV, Control Valve, Pump Casing, Turbine, Piping), a single permit can be issued to include removing equipment/piping and installing End Blinds/Blind Flanges. When restoring equipment/piping, a single permit can be issued to include removing End Blinds/Blind Flanges and installing equipment/piping.

6.17 Turnaround / Unit Outages Installation of Blinds

6.17.1 During Turnaround or Unit outages that are PIP Blinded/Battery Limit Blinded, the following requirements apply to permit the installation and removal of blinds.

6.17.1.1 PIP Blinds/Battery Limit Blinds shall be covered under its own permit for installation and removal. Multiple PIP/Battery Limit Blinds can be on the same permit when all the following conditions are met:

6.17.1.1.1 The work remains under the responsibility of the same operator or their respective relieving operator.

6.17.1.1.2 The work scope remains the same, after approval, at each location.

6.17.1.1.3 The same level of PPE requirements and required safeguards must be used at each location.

6.17.1.1.4 A joint jobsite visit is required.

6.17.1.1.5 Each blind location is specifically identified on the permit.

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6.17.1.2 Confined Space Blinds shall be covered under its own permit per the Confined Space blind list for installation and removal.

6.17.1.3 Blinds that are required for Hot Work A shall be covered under its own permit for installation per the piping package. Once the Blinds are installed, the permit can be upgraded to include the remainder of the work scope (Hot Work A, Hydrotest, Restoration and the removal of the Blinds) per the piping package.

6.17.1.4 Blinds that are required for Hot Work B and Cold Work can be included on the work scope permit.

6.18 Blanket Permitting A blanket permit may be issued to a technician or workgroup for maintenance tasks in multiple locations when all the following conditions are met:

6.18.1 The work remains under the responsibility of the same operator or their respective relieving operator.

6.18.2 The work scope remains the same, after approval, at each location.

6.18.3 The same level of PPE requirements and required safeguards must be used at each location.

6.18.4 A joint jobsite visit is required for any invasive work, hot work A and jobs under LOTO and shall take place at every location to discuss all LOTO, job preparation, and hazards.

Examples of a blanket permit for maintenance tasks at multiple locations include:

Examples of Invasive Work that require a JJSV when perimeter (battery limits) blinds are NOT installed:	
Steam Trap Repairs/Replacement	Steam Leak Repairs
Preventive Maintenance (PM) ESD Testing	Preventive Maintenance (PM) Coker Conveyor System Vacuuming Sumps
Examples of Invasive Work that require a JJSV when perimeter (battery limits) blinds are installed and all equipment within the perimeter has been decontaminated:	
Removing and reinstallation Thermometers(TI)/Thermowells	Removal and reinstallation of control valves and/or orifice plates
Removing and reinstallation Pressure Safety Valves (PSV)	"Hot Bolting"

Note: See Blinding and Energy Isolation RSW-0109-GV for perimeter (battery limit) utility blinding requirements.

Examples of jobs that don't require a JJSV for blanket permitting:	
Pipe Insulation/blankets for new installation and/or Repair	Electrician replacing light bulbs

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Painting	Project preparation (identifying and marking tie-in points)
General Clean Up	Preventive Maintenance (PM) Greasing Bearings
Scaffold Building and/or Removal	Preventive Maintenance (PM) Fixed H2S/Hydrocarbon monitor testing
Pre-Turnaround Preparation: A. Hanging blinds and gaskets B. Applying orange paint on planned demo painting C. Installing temporary exterior lighting D. Staging temporary piping	Preventive Maintenance (PM) Cathodic Protection

Note: A permit that delineates/describes multiple tasks for specific pieces of equipment is NOT considered a blanket permit.

- 6.19 For routine maintenance, per Section 4.22, in non-process areas, substations, buildings, lay-down areas, designated fabrication areas, and maintenance shops, work permits will not be required.
- 6.19.1 Routine maintenance work in Process areas shall require a work permit.
 - 6.19.1.1 Exception to requiring a Safe work permit requirements include operator performed cold work, and leak detection and repair (LDAR) monitoring only.
 - 6.19.2 An approved hazard recognition tool must still be utilized for non-permitted work.
 - 6.19.3 Work that may impact Life Critical energy isolation, fall protection, and confined space entry shall require work permits.
 - 6.19.4 Hot Work A and Hot Work B activities being conducted in buildings, substations, lay-down yards, and non-process areas will not require atmospheric monitoring, except for confined space entry.
 - 6.19.5 Hot Work A work in buildings, substations, lay-down yards, and non-process areas shall have a trained Fire Watch present with a fire extinguisher or charged fire hose.
 - 6.19.6 Hot Work A work in designated fabrication shops and areas shall have a fire extinguisher or charged hose present.
- 6.20 The permit writer and anyone signing the permit must assure himself that the person or persons supervising or working the job completely understands the conditions and limitations under which the permit is issued and, in addition, shall positively identify the particular equipment, line or area where the work is to be performed.

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- 6.21 In work locations where there is close proximity to tanks, equipment, or lines under the jurisdiction of more than one department, the person originating the permit shall contact all areas or Domains involved determining that the projected work can be done safely without hazards and all Domain or Day Supervisors should countersign the permit.
- 6.22 In the event jurisdiction over a line is not clear, such as partway between two areas, the line shall be considered the responsibility of the Domain, Unit, or area from which the material flows. In cases where an area is involved, such as the Maintenance access between Domains, the responsibility shall rest with the Department or Unit requesting the work to be performed.
- 6.23 For contractors working under the Engineering Department, the Engineering Coordinator will countersign all work permits in place of the Area Maintenance Coordinator.
- 6.24 Maintenance personnel will normally only issue permits needed for work in or around the maintenance areas, electrical substations, and laydown yards. After normal working hours, and in the absence of an appropriate Maintenance Supervisor, the Operations Shift Supervisor will assume permit writing responsibility.
- 6.25 Work Permits Outside of Units and in Non-Routine Situations
- 6.25.1 Contractor Acting as Owner Areas
- 6.25.1.1 The Docks, Sulphur Loading Rack, Coke Handling System and the Thermal Desorption Unit Contractor acting as Owner designee will issue cold work & unattended hot work "B" permits. Confined Space Entry and attended Hot Work "A" permits will be cosigned by the area MPC Owning Department Supervisor.
- 6.25.2 Analyzer Buildings
- 6.25.2.1 The appropriate unit operator will issue all work permits associated with Analyzer Building work and entry. A confined space entry permit is not required for Analyzer Building Entry.
- 6.25.2.2 All Analyzer Buildings, not equipped with fixed detection and alarm system, will be checked for hazardous atmospheres by the Instrument Technician prior to entry.
- 6.25.2.3 Instrument Technicians will test any Analyzer Building without fixed detection and alarm systems with portable equipment for the following:
- Oxygen content shall be between 19.5% and 23.5%.
 - Flammable vapor less than 0% LEL. Entry requires supplied breathing air for flammable vapors >0% and <10% LEL.
 - Potential toxic air contaminants must be below their PEL (i.e., H₂S, BZ, SO₂, etc.).

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- Instrument Technicians will also continuously monitor the area with portable equipment while working in Analyzer Buildings without fixed detection systems and evacuate immediately if concentrations exceed acceptable permissible limits.
- 6.25.3 Work Permits in the Laboratory will normally be initiated and signed by the Lab Supervisor or the Shift Chemist. Normal maintenance work in the Lab that does not constitute a hazard will require only a verbal explanation and permission to work from the Supervisor responsible for that area. Other more hazardous type work (welding, burning, soldering, etc.) would require the appropriate hot or cold permit.
- 6.25.4 MPC maintenance technicians perform routine vibration analysis (non-invasive work) with intrinsically safe equipment (CSI Vibration Data Collector) that shall not require a work permit. However, the instrument technician must sign-in and sign-out of the process unit and communicate with the unit operator prior to conducting the analysis.
- 6.25.5 MPC instrument technicians performing routine analyzer preventative maintenance inside and outside all Analyzer Buildings equipped with fixed detection and alarm systems shall not require a work permit. However, the instrument technician must sign-in and sign-out of the process unit and communicate with the unit operator and board operator prior to conducting the analyzer preventative maintenance. This excludes fixed area monitors and in situ process analyzers (PH, Conductivity, Control O2, etc.).
- 6.25.6 Non-routine work being performed in buildings, designated fabrication shops/areas, lay-down yards, and other non-process areas not listed in Section 6.24 will be permitted solely by the Maintenance and/or Engineering Coordinator supervising the work.
 - 6.25.6.1 In section V, the Maintenance/Engineering Coordinator signature in MPC Coord/Maint Supervisor section is equivalent to the MPC Operator and MPC OPS Supervisor/Maint Coord signatures. MPC Safety Representative or Department Manager signatures shall be required when appropriate.
- 6.25.7 Electrical Substations
 - 6.25.7.1 The Electrical Department shall assume ownership of all electrical substations within the refinery. The Electrical Department shall be responsible for the permitting of all non-routine work activity related to the building (lighting, AC, integral alarms, general maintenance of building) and utilities (incoming power and distribution system) of each substation.
 - 6.25.7.2 If work being performed in the electrical substation is expected to affect the process units, takes power away from or limits any process equipment availability, including standby spares, an Operations Domain Shift Supervisor or Operations Maintenance Coordinator signature will be required on the work permit for communication purposes.

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6.25.7.3 The following signatures are required for any permit issued within the electrical substation:

6.25.7.3.1 Electrician (Permit issuer)

6.25.7.3.2 Electrical Supervisor or their assigned designee

6.25.7.3.3 Servicing Representative (Contractor Foreman)

6.25.7.3.4 MPC Operations Supervisor or Operations Maintenance Coordinator if work affects the process unit.

6.25.7.4 Ops/PC shall be allowed access to the electrical substations in their areas to operate electrical process equipment (reset overloads, perform energy isolation of process equipment, operate 480-volt motor control center, and respond to common trouble alarms). This activity performed by Ops/PC will not require a work permit.

6.25.8 Guidelines to Energize/De-energize Breakers and Starters

6.25.8.1 Operators may Energize or De-Energize 480-volt MCC breakers and explosion proof breakers with the required PPE with a stand-by person. All switchgear breakers >480-volts shall be operated by qualified electricians only. A qualified person must be present while low voltage switchgear breakers or medium voltage equipment is Energized or De-Energized. See the Electrical Standard Practice, RSP-1162, Appendix B.

6.26 Miscellaneous Buildings with DCS, PLC or Associated Network Systems

6.26.1 If demolition is being performed on the Distributed Controls System (DCS), Program Logic Controller (PLC), or associated network within a satellite building, Server Room, or any other location such as the Old Control Room (which is located south of U-19), Operations Training Center (OTC), and Central Control Center (CCC), a Control's Engineer is required to co-sign the safe work permit with the "Owning Representative".

6.26.2 The Control's Engineer must be present during the JJSV prior to signing the safe work permit to ensure the equipment is ready for demolition, to discuss risks to process units due to failure of nearby control system equipment and to answer questions associated with the demolition.

6.27 Work Performed by Owner of Equipment

6.27.1 Hot work, confined space entry, flare work or energized hot work performed by the owner of the equipment (for example: operator performed maintenance) must be permitted as outlined above, no matter who is performing the work.

6.27.2 The permits shall be fully completed as if the task were being performed by the Maintenance Department. The permit shall be signed by two knowledgeable people. Requiring a second person to sign the permit provides a second set of eyes to review the job just as is required for a job permitted to a Maintenance employee.

6.27.3 The Operator(s) responsible for completing the hot work task cannot write or issue his/her own permit. All other hot work requirements (e.g., LEL checks, fire

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watch, sewer covers, etc.) apply to the Owning Department.

6.27.4 With regards to signing the work permit, the following shall be followed:

6.27.4.1 The operator responsible for completing the task shall sign as the “MPC Maintenance Representative.”

6.27.4.2 The operator authorizing the work permit shall sign as the “MPC Operator.” The Shift Leader does not have to authorize the permit; however, the Shift Leader shall be notified.

6.27.5 Any other work performed by the owner of the equipment, on jobs where energy isolation is required, must be done under lock-out/tag-out, unless the job is included in the “Minor Servicing Activities Matrix” – **Appendix H of RSW-0109-GV** or is considered “exclusive control” which only involves plug and cord equipment. Hot work permits are not required for operators lighting heaters, although gas testing is required in each cell.

6.28 The Louisiana Refining Division will audit their Work Permit Program annually by a team of Safety, Operations and Maintenance personnel to ensure that the Work Permit Program is either working as intended or should be modified to correct identified deficiencies.

6.29 If there is any doubt as to the safety of the job, the owning department, maintenance foreman, contractor coordinator or safety personnel should be consulted. Special tests shall be made if equipment is known or suspected to have contained lead compounds, PCB's, asbestos, carcinogens, or other toxic materials.

6.30 Contact the Supervisor, Safety Department or Technical Services Representative if there is any doubt as to the identification and potential hazard of any material. See Safety Data Sheets for additional information.

7.0 Joint Job Site Visit (JJSV)

7.1 The JJSV will be attended by the Owning Representative and the Servicing Representative who are working under the permit. Additional representatives from the Owning Department, Servicing Organization, Safety Department, etc. who are not members of the work party may also participate.

7.1.1 Owning Representative and the Servicing Representative(s) will complete and discuss each item for the JJSV on the work permit, checked off and initial by Owning/Servicing Representatives. For jobs that require multiple servicing groups a JJSV, and discussion is required for each MPC craft, and each Servicing Group will initial the work permit after the JJSV was completed.

Note: It is *never* okay to identify the piece of equipment to be worked on by simply describing it from a remote location.

7.1.2 JJSV participants will discuss and check off on the “**AGREED**” items listed on the work permit to facilitate an effective JJSV:

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- A** Accurately Define Work Scope
(Blinding, disassembling, hot work, vehicle entry, etc.)
- G** Guaranteed the Correct Equipment Location
(owning and servicing representatives agree on the location at the site)
- R** Review All Hazards
(RAM, PPE, Chemical Hazards, Physical Hazards, Activity in the area, Barricades, etc.)
- E** Energy Isolate/Verification Completed
(Breakers, Valves, Blinds/Open Bleeders, Atmospheric Testing, Zero Energy, Start Switches, etc.)
- E** Emergency Scenarios Covered
(Muster Locations, Wind Direction, Safety Showers, Notifications, etc.)
- D** Discussed First Break Location on Equipment
(Identify and agree on the first pipe/equipment opening)

7.1.3 To ensure accurate, reliable communication, at least one person who attended the JJSV shall communicate to their work group items discussed from the JJSV.

8.0 Job Scope / Equipment Identification:

8.1 Prior to beginning permitted work, a joint job site visit is required for the following work types:

- 8.1.1 Hot work A
- 8.1.2 Jobs under lock-out-tag-out with an established isolation list and box
- 8.1.3 Any invasive work
- 8.1.4 Hot Bolting Activities (Hot torquing-online tightening, leaking flange, bolt replacement, 4-bolt, and hot bolt/skip bolt/half bolt)

8.2 The following tasks each have specialized forms/permits, more detailed checklist and plans requiring elevated approvals prior to work execution for the specific type of work (this is not an all-inclusive list).

- 8.2.1 Confined Spaces
- 8.2.2 Critical Lift
- 8.2.3 Hot Tap/In-Service Weld
- 8.2.4 Energized Electrical Work
- 8.2.5 Decking, Railing, Grating Removal
- 8.2.6 Excavations
- 8.2.7 A JJSV is required to be completed if requested.

8.3 JJSV Requirements for Ongoing Work

- 8.3.1 An ongoing job, where the Owing Representative and Servicing Representative(s) do not change and the scope do not change from one permit period to the next, only requires a JJSV the first time the permit is issued per shift.
- 8.3.2 The Owing Representative shall inform the Servicing Representative(s) of any changes in conditions or operating emergency which could affect the job. Any change in work scope must be communicated by the party initiating the change

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to the Servicing Representatives and the Owning Representative to determine whether an update to the permit is required and/or another JJSV is necessary.

8.4 Turnaround/Unit Outages

8.4.1 During Turnarounds or Unit outages, once the unit is turned over (i.e., PIP Blinded/Battery Limit Blinded) Operations, Maintenance and the Servicing Group must do a JJSV (i.e., unit walk down) for the first servicing day for both day/night shift.

8.4.2 If the contractor company changes (i.e., work scope is given to a different company) then another JJSV is required with the new company.

9.0 REVOKING AND REINSTATING PERMITS

9.1 Unexpected Hazards - In cases where a hazardous situation should develop during work, maintenance/contractor employees shall be notified to stop work immediately, shut down equipment or any other source of ignition, and leave the area, if necessary. All work permits in the affected area shall be revoked and only after hazards are mitigated may another permit be issued.

9.1.1 The person first noticing the hazard shall notify the Operator or Owning Department Supervisor in charge that will be responsible for reporting the hazard. Once an emergency has ended and it is found to be safe to resume work, it will be the responsibility of the Owning Department Supervision to sign or issue a new permit to resume work after being assured that all required precautions have been taken.

9.2 Interruption by Operations - When operating personnel find it necessary to open, un-head or disconnect vessels or lines which are known or suspected of containing flammable liquids or vapors after a work permit has been issued, it is mandatory that all work permits be temporarily recalled to assure that no work is being performed in the affected areas until it is determined that it is safe to permit resumption of work. Additional gas tests may be required.

9.3 Interruption or Completion by the Servicing Group - When work is interrupted, delayed for more than two hours or finished before the termination time shown on the permit, it is the responsibility of the Maintenance/Engineering Supervisor in charge of the work to see that the Work Permit is returned to the Operator, Owning Department or Supervisor as notification that the work has been discontinued or terminated.

9.4 Resumption of Work Following Interruption - In the event interrupted work is resumed within the time limitations of the original permit, the permit may be reinstated provided both authorized signer and countersigner initial the original permit (and tan copy) and note time of reinstatement. Permits shall require that if work in a vessel that has previously been pronounced gas free is delayed or suspended for more than two hours due to an incident, required tests be repeated.

9.5 Time Limitation on Work Permits – Normally, Work Permits will be issued only for the current shift or part thereof. If it becomes necessary to continue work beyond the shift for which the permit was issued, the permit may be extended into the next shift

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provided all safety requirements will continue to be met and provided the signer and countersigners responsible for the work during the extended period of time shall sign the original and carbon copy of the existing permit; specifying thereon the extended time limitations. Confined Space Permits may not be extended; a new permit must be issued.

9.5.1 The permit signers must carefully review the need for additional testing or other safety precautions that may be needed before extending the permit.

9.5.2 This procedure may be repeated at shift change up to the beginning of the next daytime shift, at which time a gas test must be made and a new permit issued.

10.0 EQUIPMENT REMOVAL

10.1 Equipment removed from operating units or areas to maintenance shops or other open areas for repairs normally shall be cleaned and made gas free. The permit issuer is responsible to see that the equipment is free of all hydrocarbons, harmful substances, and so stated on the permit. They shall inspect any equipment opened before it leaves the site to determine if additional cleaning is required. The Maintenance Supervisor responsible for the equipment repairs shall inspect the equipment as it is further disassembled in the shops.

NOTE

Any location where a cut will be made as part of a job work scope must be physically marked for positive identification according to the site-specific Tie-In Tagging and Marking Procedure (RDP-E202-GV).

NOTE

Use the HIGHEST LEVEL of respiratory protection if respiratory hazards are not known.

10.2 Maintenance personnel shall gas test as required before hot work is started. These precautions are necessary to prevent an accident should hot work be performed on the equipment and to prevent workmen coming into contact with corrosive or toxic chemical materials.

11.0 WORK PERMIT

11.1 Section I - Work Authorization and Instructions

11.1.1 Enter date the work is to be done.

11.1.2 Enter the time that the work is authorized to begin.
(The 24-hour clock will be used for permit times)

11.1.3 Enter the time at which the permit expires.

11.1.4 Enter permit extensions. If the original operator on shift is relieved, then the relieving operator must sign both copies of the permit. A determination as to the need for additional gas testing or a re-validation is required. A permit may

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only be extended once and for not more than 12 hours. Confined Space Permits may not be extended; a new permit must be issued.

- 11.1.5 Enter work order number (if applicable)
- 11.1.6 Identify applicable required permits such as in-service weld, critical lift, man-basket, etc.
- 11.1.7 Identify relief change as appropriate.
- 11.1.8 Identify additional permit(s) or competent person(s) requirements.
- 11.1.9 Enter emergency contact information.
 - 11.1.9.1 Enter the exact location where the work is to be performed.
 - 11.1.9.2 Enter the authorized company that will perform the work.
 - 11.1.9.3 Enter the specific work description of the work being authorized.
 - 11.1.9.4 Indicate if a joint job site visit is completed / required.
 - 11.1.9.5 Identify all potential hazards and/or chemical exposures that may be encountered.
 - 11.1.9.6 Identify if the process hazard overview pamphlets have been reviewed.
 - 11.1.9.7 Indicate all preparatory actions that have been taken to ensure that the equipment is ready for the work to be performed. Only qualified electricians will be allowed to rack in or out breakers/ starters greater than 480 volts. The qualified electrician will complete the applicable line item for racking out / in the breaker on the MPC Energy Isolation Form.
 - 11.1.9.8 Indicate the personal protective equipment that must be worn for the job to be performed safely. The LRD Personal Protective Equipment Reference Guide (Section 26) is available to select the appropriate PPE.

11.2 Section II - Hot Work Permits – General Information

- 11.2.1 All hot work must be performed in accordance with the Hot Work Standard Practice RSW-0185-GV.
- 11.2.2 The permit issuer must indicate the type of hot work to be performed and the fire prevention requirements. When a hot work permit has been issued, a cold work permit is not required for the same craft for the same job.
- 11.2.3 Hot tapping and welding on lines or equipment under pressure or not hydrocarbon gas free requires special approval per the requirements of the In-Service Welding and Hot Tapping Procedure (RDP-E200-GV).
- 11.2.4 It will not be necessary for the Owning Department Supervisor or the Maintenance or Engineering Coordinator to visit the work site prior to signing and issuing a Class B Hot Work permit.
- 11.2.5 When issuing a Hot Work Class “A” Permit, both the Owning Department Supervisor or Operations Maintenance Coordinator and the Maintenance Zone Coordinator or the Engineering Coordinator must always make a thorough inspection of the work site to assure themselves that a safe and healthy work environment exist. Only after a thorough on-site inspection has

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been made, is the permit then signed by the Owning Department Supervisor and the Maintenance/ Engineering Coordinator.

- 11.2.6 All equipment (pipe, towers, etc.) shall be approved for hot work by blinding, disconnecting or by utilizing a double block and bleed (single valve isolation may be used for non-flammable or non-potentially hazardous service - water). The equipment must be made gas-free by steaming, washing or other accepted procedures.
- 11.2.7 If Nitrogen is used, then a check valve must be in place before connecting to a process line to prevent any backflow into the Nitrogen System.
- 11.2.8 All hot work performed in "open" (remote) or elsewhere areas (non-unit) shall be reviewed before-hand with the Area Maintenance/Engineering Coordinator for whom the work is being performed, to determine if it is considered "routine" or "non-routine" type work and the degree of hazards involved.
- 11.2.9 Routine Hot Work B tasks performed along the Coker Belt/Dock 4 (excluding work inside of the Coker Belt Tube) that do not require atmospheric gas testing:
- Vehicle entry along conveyor system, E-Pad, and Dock 4
 - Conveyor PMs with use of battery-operated tools
 - Roller replacement with the use of battery-operated tools
 - Transfer of water from E-Pad and belt sumps by Vacuum Truck along conveyor belt
 - Use of heavy equipment to clean E-Pad and Maintenance Pad
 - Dock 4 shuttle/spot maintenance and repairs
- 11.2.10 Opening an energized explosion proof enclosure or purged panel in an electrically classified area shall require a Hot Work B permit.
- 11.2.11 Welding on steam lines while pressured up shall require all precautionary measures taken for similar work on oil and gas lines and the hot work permit shall be cosigned by the Department Manager affected.
- 11.2.12 Hot Work Precautions and Fire Watch (Attendant) Requirements
- 11.2.12.1 Precautions (i.e., fire blankets) must be taken to prevent sparks from dropping through openings onto combustibles/flammables below and into drains, sewers, etc. Fire blankets shall also be used to contain sparks in the work area.
- 11.2.12.2 All flanges, packing glands, and other common leak points that have the potential to come into contact with sparks/slag are to be covered with fire blanket.
- 11.2.12.3 Water filled covers must be placed over the openings of all oily water sewers in the area exposed to hot work.

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- 11.2.12.4 When welding on components (structural steel, pipes, etc.) that could transmit heat by conduction and/or radiation, care must be taken to prevent heat transfer to combustible materials.
- 11.2.12.5 A trained and dedicated attendant (fire watch) with adequate firefighting equipment shall be maintained at the job site while attended hot work (hot work A) is in progress. The fire watch shall remain at the job site for at least one-half hour after completion of work to detect and extinguish possible smoldering fires.
- 11.2.12.6 A fire watch shall wear a red vest.
- 11.2.12.7 A fire watch shall cool with water falling sparks and hot slag, unless otherwise indicated on permit.
- 11.2.12.8 See the Hot Work Standard Practice RSW-0185-GV for a detailed list of Hot Work Precautions and Fire Watch (Attendant) Requirements.

11.3 Section III (Confined Space Permit) - Confined Space Precautions

- 11.3.1 Indicate precautions that must be taken to ensure that confined space entry may be performed safely as per the LRD Confined Space Standard Practice, RSW-0106-GV.
- 11.3.2 The Shift ERBO will ensure rescue and emergency services are always available during confined space entry operations.
- 11.3.3 Upgrading the Confined Space permit, Owning Department is required to call Safety to verify that PPE is adequate for the work and associated hazards that will take place. Safety does not need to sign off on the permit. The MPC Operator, MPC Ops. Maintenance Coordinator, MPC Maintenance Coordinator will be required to sign the permit for the upgrade.
- 11.3.4 Downgrading a Confined Space, Safety is required to recheck the space with atmospheric monitoring, document the readings, PPE requirements and sign-off on the permit. In addition, the MPC Operator, MPC Ops. Maintenance Coordinator, MPC Maintenance Coordinator will be required to sign the permit for the downgrade.

11.4 Section III (Safe Work Permit) / Section IV (Confined Space Permit) - Atmospheric Monitoring and Gas Testing

NOTE: Reference the appropriate Safety data Sheet (SDS), RSW- A -002-GV (LRD Hazard Characterization and Respiratory Protective Equipment Selection Guide) or other guide to obtain Permissible Exposure Limits (PEL) and guidance in establishing acceptable atmospheric conditions. If in need of assistance in conducting atmospheric testing, contact the Safety Department.

- 11.4.1 In all cases where there is a possibility of oxygen deficiency or of any vapors, gases, mists, fumes, pH, or other hazardous substances being

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present, an appropriate test must be made to determine if any harmful levels exist. The testing must be completed prior to issuing the applicable work permit and the results communicated to all personnel involved via the work permit. Testing should be made in an area that provides a representative sample of employee exposure and/or reflects the condition of the equipment being worked on.

- 11.4.1.1 Gas tests will be made after all preparatory work has been completed and in as short a time as practical prior to the start of work. This includes all applicable blinding, disconnecting, and steaming. In every instance a test must be taken within two hours prior to the start of work.
- 11.4.1.2 When work is not started within two hours of the time the gas tests were taken, another test must be made by the owning Department with results shown and signed by the person taking the second test.
- 11.4.1.3 Testing shall be performed at multiple points to ensure the affected equipment/piping is clear.
- 11.4.1.4 If a representative sample cannot be obtained, use the Risk Assessment Matrix to identify protective measures based on the contained process material.
- 11.4.1.5 Equipment must not be under vacuum while analyzing for hydrocarbons and contaminants.
- 11.4.1.6 While atmospheric monitoring/gas testing the monitor inlet must break the plane of equipment/bleeder being tested.
- 11.4.1.7 Ensure monitor inlet is not placed in any liquids/liquid streams.
- 11.4.2 Care must be taken on any vessels, tanks, piping, or other equipment which is lined, and which could have void spaces (e.g., vessels with stainless steel liners) to assure no product or vapors are trapped between the layers. This includes tanks with double bottoms, fiberglass-lined tanks, double-walled tanks, and piping, etc.
- 11.4.3 All atmospheric monitoring equipment shall be direct reading and calibrated as defined by the manufacturer's recommendations.
 - 11.4.3.1 If unsure of the accuracy of gas test readings or readings are misleading, first attempt to recalibrate testing equipment. If still unsure of readings, contact Safety/IH Department(s).

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NOTE: There are a few known interferences that can result when using a multi-gas meter. When these situations arise, an alternate method should be used to analyze the environment of the equipment. Refer to RRD-1323-000 Safe equipment Preparation Guidelines for detailed information on testing equipment for contaminants and appropriate testing methods to determine equipment cleanliness.

- 11.4.4 When issuing a Cold Work Permit and it is known that combustible or toxic gases are not present, the permit issuer may note "not required" or "N/A in the appropriate column together with his signature.
 - 11.4.4.1 In an Inherently Safe Area, per section 4.14, atmospheric monitoring will not be required unless Hot Work A or B is being conducted on equipment previously in hydrocarbon service or the work affects piping/equipment containing flammable gases.
- 11.4.5 Some gases and vapors considered toxic (not all inclusive) are Benzene, Hydrogen Sulfide (H₂S), Carbon Monoxide (CO), Sulfur Dioxide (SO₂), Ammonia (NH₃), Hydrofluoric Acid (HF), Hydrochloric Acid (HCL). Again, see the appropriate Hazard Guide or Safety Data Sheet Manual for Threshold Limit Values and other pertinent information.
- 11.4.6 Whenever work is to be performed on or around equipment in hydrogen service, a hydrogen specific gas monitor should be used to detect any hydrogen leaks in the immediate work area.
- 11.4.7 Gas testing results and the time taken shall be recorded in the appropriate sections of the work permit. The person conducting the tests shall sign the appropriate blank on the permit. Any additional atmospheric monitoring shall be recorded on the copy of the permit that will be returned to the Safety Department.
 - 11.4.7.1 A Safety Department representative shall conduct the initial atmospheric testing prior to entry into a Confined Space. The Owning Department will assume responsibility for subsequent testing.
 - 11.4.7.2 All confined spaces shall be tested for flammable gases/vapors, oxygen content, and any toxic substances as specified by the Owning Department process and confined space data sheet. All other hazards, such as temperature, shall also be evaluated.
 - 11.4.7.3 All Confined Space permits must have a mid-shift gas test performed and documented on the permit by the Work Permit Writer. Gas test results shall be recorded on the field (tan) copy of the work permit and returned, along with the original, to the Safety Department.
- 11.4.8 Identify instrumentation equipment identification and date of last calibration.
- 11.4.9 Indicate whether atmospheric testing must be continuous. All confined spaces require continuous monitoring per **RSW-0106-GV**.

When-continuous monitoring is required; the permit writer must clearly indicate the sampling point in the space on the permit. The sampling point must be representative of the breathing zone of entrants.

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- 11.4.10 The need for continuous monitoring will be based on whether the potential exists for changing conditions, new hazards being introduced because of the work to be conducted, past experiences and initial atmospheric monitoring results.
- 11.4.10.1 Continuous atmospheric monitoring using a direct reading instrument is required for all confined space entries using equipment with audible, visual, and vibrating alarms.
- 11.4.10.2 In some cases, employees must wear a calibrated four gas (LEL, Oxygen (O₂), Hydrogen Sulfide (H₂S), and Carbon Monoxide (CO)) personal monitor as required by RSW-A-024-GV.
- 11.4.11 Hot work shall not be performed if the LEL is greater than 0% LEL. If the concentration exceeds 0% LEL, the permit writer must describe the source of the flammable vapors and the control strategy. The use of steam, nitrogen, CO₂, or other means of keeping the immediate work area out of the flammable range must be approved by the owning department. However, by using Safety Procedure Variance Form [01-GV](#), hot work can be performed up to 10% LEL.
- 11.4.12 Workers have the right to be present for initial testing as required by 29 CFR 1910.146(c) if entry is being performed.
- 11.4.13 In open areas with hydrocarbon vapors present, the owning department needs to evaluate the potential for fire / ignition from tools and equipment to determine the type of permit required and consider the following guidelines:
- 11.4.13.1 Cold work rules will apply if the work involved would not ordinarily create an ignition source.
- 11.4.13.2 Hot work rules will apply if it can be expected (even remotely) that the work could produce a source of ignition.
- 11.4.13.3 Additional safety precautions to the extent deemed necessary by the owning department, maintenance, or contractor, must be taken, depending on the individual task, hazards present, etc. See detailed information for special hot work, hot tapping, and hot bolting the Hot Work Standard Practice RSW-0185-GV.
- 11.4.14 If required for the work scope, gas testing will be conducted following preparatory work (i.e., blinding, steaming) and in as short a time as practical prior to the start of work. The gas test must be taken within two hours prior to the start of work.
- 11.4.15 When work is not started within two hours of the time the gas tests were taken, another test must be made by the Owing Department with results shown and signed by the person making the second test.

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11.4.16 Even if continuous monitoring is being conducted, additional tests must be made at least midway through the maintenance shift/work permit period after the initial permit has been issued and more frequently if there is any reason to suspect that conditions may change. If the Work Permit is being issued for four (4) hours or less, a midway gas test may not be required depending on work and site conditions.

11.5 Section IV (Safe Work Permit) / Section V (Confined Space Permit) – Required Work Authorization Signatures

11.5.1 Obtain signatures from all applicable personnel as indicated to validate the conditions specified on the permit, as per the signature matrix. All signatures on the permit must be legible. Signatures from personnel or groups not involved in the work being permitted are not required.

NOTE

If the work has been scheduled or coordinated by Maintenance, the Maintenance signatures are required.

11.5.2 MPC Operator (Owning Department) - This signature should be of a non-supervisor operating personnel that have ensured that the worksite is properly prepared, completed the permit, and reviewed it with the work party representative(s). Vehicle entry permits can be handled by the Operating Technician.

11.5.3 MPC Ops./PC Super.Maint.SPC- To be signed for the specific area covered by the permit. The Supervisor is responsible for all terms of the permit for the duration of the permit.

NOTE

On a limited basis, the Domain Supervisor or Operations Maintenance Coordinator may give authorization via radio to an operator to sign a cold work or Unattended Hot Work permit. The operator will print the word "for" and the supervisor's full name on the operating supervisor signature line. The operator then signs their own signature.

11.5.4 **MPC Coordinator / Maintenance Supervisor** – To be signed by the MPC Zone Maintenance or Engineering Department Field Coordinator or their designated representative that is responsible for that geographical maintenance zone or engineering project. Signature is required if MPC maintenance schedules the work.

NOTE

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The Maintenance Zone Coordinator may delegate this authority to an Operations or Product Control Supervisor for Cold Work or Unattended Hot Work on nights and weekends.

NOTE

The Maintenance Zone Coordinator shall sign all invasive work permits.

NOTE

Maintenance Zone Coordinators are not required to sign non-Maintenance work permits (i.e., deliveries, etc.).

- 11.5.5 MPC Safety Representative – To be signed by a member of the MPC Safety Department who is involved in the evaluation of the hazards and controls of the work. This may include confined space entry, closure and isolation of radiation sources, entry into excavations, decking/railing removal, critical lift and other applicable situations.
- 11.5.6 Department Manager – To be signed when the work scope calls for a manager's signature (e.g., Hot Tap, In Service Weld, Critical Lift). When a Department Manager's signature is required, the Operating Supervisor and the Maintenance/Engineering Coordinator must each inspect the work site before signing the permit.
- 11.5.7 Controls Engineer, if demolition on DCS, PLC or associated network the Controls Engineer signature is required.
- 11.5.8 Day Foreman, to be signed when energy isolation cannot be verified and does not meet the requirements for a variance.
- 11.5.9 Joint Job Site Visit, Check box in this section to indicate if a joint job site visit is completed/required or not applicable. All items on the permit must be considered prior to work. Signatures should only be recorded after the Joint Job Site Visit is completed if Joint Job Site Visit is required.

NOTE

Signatures should only be recorded after the joint job site visit (if joint job site visit is required) is completed.

11.6 Section: V (Safe Work Permit) / Section VI (Confined Space Permit) / - Service Group Signatures

- 11.6.1 Obtain applicable signatures from each Contractor Company Representative or Foreman who is involved in the work or joins a job in progress. This is to certify that the requirements specified on the permit have been effectively communicated to members of the work crew who joined a job in progress.

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11.7 Section VI (Safe Work Permit) / Section VII (Confined Space Permit) - Return of Equipment/Work Area Job Completions

11.7.1 To be completed at the end of each workday or shift. Indicate the status of the job at the conclusion of the work permit. Obtain signatures from the servicing representative(s) and owning department to certify that the permit has been terminated and record the time of signatures on the original white copy of the permit. If the job completion section is completed on the tan copy of the permit, it must be returned to the Safety Department with the original permit.

12.0 WORK ON LINES UNDER CATHODIC PROTECTION

12.1 Operating Unit Areas

12.1.1 Rectifier - Rectifier should remain in operation except as follows:

12.1.1.1 Turn rectifier off before excavating along or in close proximity of cathodic protection cables. Cutting or breaking these cables will cause arcing.

12.1.1.2 Turn rectifiers off when making repairs to rectifier or its cables.

12.1.2 Temporary Bonding

12.1.2.1 No bonds or bonding devices are necessary when lines or vessels are disconnected in the operating area. These facilities are inherently bonded through interconnecting piping, supports and ground system.

12.2 Area Outside Operating Unit Boundaries

12.2.1 Rectifier

12.2.1.1 Turn rectifier off before excavating along or in close proximity of cathodic protection cables. Cutting or breaking these cables will cause arcing.

12.2.1.2 Turn rectifiers off when making repairs to rectifiers or cables.

12.2.2 Temporary Bonding

12.2.3 No bonds or bonding devices are necessary except as follows:

12.2.3.1 Bond across pipe separation if the separation will cause the protected structures to become isolated.

12.2.3.2 Bond structures purposely isolated, such as docks, to protected structures.

12.2.3.3 Where a bond is required, the Electrical Supervisor shall also countersign the permit indicating that a satisfactory bond has been made.

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13.0 REVISION HISTORY

Revision Number	Description of Change	Written by	Approved by	Revision Date	Effective Date
0	Change procedural format	Ritchie Hofmann	Refinery Management Team	6/18/2008	7/1/2008
1	Under 7.3 "Deliveries to Units" was deleted.	Ritchie Hofmann	Refinery Management Team	8/29/2008	8/29/2008
2	Hot Tap Forms were revised	Roger Gautreau	Refinery Management Team	9/16/2008	9/16/2008
3	Implementation of Work Permit Process Flow Chart	Roger Gautreau	Refinery Management Team	11/1/2008	11/17/2008
4	Added 11.2.27, 11.2.28, 11.2.29 regarding portable welding machines.	Ritchie Hofmann	Refinery Management Team	6/1/2009	6/1/2009
5	Changed & added a sentence to 13.3.1 & revised Work Permit	Ritchie Hofmann	Refinery Management Team	9/1/2009	9/1/2009
6	Revised Section 15.0 and 16.0 to reflect current practice	Casey Berniard	Safety Department	2/01/2010	2/01/2010
7	Revised Section 8.1 and 11.5.9 to address MPC changes	Ritchie Hofmann	Safety Department	4/15/2010	4/15/2010
8	Revised Section 13.1 regarding hot bolting	Richie Hofmann	Safety Department	5/6/2010	5/6/2010
9	Revised the Fire Water System Out of Service Permit & removed forms	Casey Berniard	Safety Department	6/17/2010	6/17/2010
10	Revisions to address current practices	Ritchie Hofmann	Safety Department	8/10/2010	8/10/2010
11	Revision to Section 6.21 per Recommendation 20101272-015	Safety	Refinery Management Team	10/18/2010	10/18/2010
12	Revision to Section 6.20.4 per Maintenance request	Safety	Refinery Management Team	12/31/2010	12/31/2010
13	Revision to Section 6.20.6 per Maintenance request	Safety	Refinery Management Team	1/28/2011	1/28/2011
14	Deleted Section 12.0 and developed a specific PSM Procedure, RDP-E200-GV.	Safety	Refinery Management Team	4/01/2011	4/01/2011
15	The addition of section 6.14 is to provide guidelines of when a single permit may be used for multiple locations.	Safety	Refinery Management Team	8/1/11	8/1/11

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Revision Number	Description of Change	Written by	Approved by	Revision Date	Effective Date
16	Addition of section 11.2.31.2 is to provide guidance of when flanges, packing glands, and common leak points are to be protected from sparks.	Safety	Safety Department	1/21/2012	1/21/2012
17	Revision to include the reference of the Engineering Hot Tap, In Service Weld or Stopple Installation Local Specification	Safety	Safety Department	2/10/2012	2/10/2012
18	14.3 was changed regarding Notifications	Safety	Refinery Management Team	3/31/2012	3/31/2012
19	PPM changed from 300 to 100 in chart on page 42. Refinery Management to Refinery Leadership	Safety	RLT	8/01/2012	8/01/2012
20	No changes – 3-year review	Safety	Safety	9/01/2012	9/01/2012
21	Section 14.8.5 was added to require a competent person to review piping tie-ins with mechanically assembled components.	Safety	RLT	2/8/2013	2/8/2013
22	Added statement to section 11.1.16 requiring the qualified electrician to complete the corresponding line item on the MPC Energy Isolation List	Safety	RLT	4/30/2013	4/30/2013
23	Removed Work Permit and added to Appendices	Safety	RLT	5/7/2013	5/7/2013
24	Added section 9.19; PPE requirements for lines suspected of being plugged	Safety	RLT	5/14/2013	5/14/2013
25	Modified section 8.4 to require retesting of a confined space if work is suspended for more than two hours. This statement aligns with the LRD Confined Space entry Standard Practice	Safety	Safety	6/3/2013	6/3/2013
26	Changed the MSDS to SDS in section 9.5 and 9.7	Safety	Safety	8/20/13	8/20/13
27	Added a Note on pg. 23 concerning flanges being secured after inserting/removal	Safety	Safety	11/13/13	11/13/13
28	Added section 12.3.1.1; hot work processes will not be conducted on the final break.	Amanda Hall	Safety	3/24/2014	3/24/2014
29	Added section 6.2; RAM score needs to be completed for invasive work. Added section 11.5.1.1-11.5.1.5; defined atmospheric monitoring requirements	Amanda Hall	RLT	4/3/2014	4/3/2014
30	Updated section 6.15 from a KMS item. Added section 6.22.5.	Amanda Hall	VPP 7/17/2014 RLT 7/24/2014	7/28/2014	7/28/2014

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Revision Number	Description of Change	Written by	Approved by	Revision Date	Effective Date
31	Updated section 6.13-6.15 on the requirements of which permits need to be posted on the job site. Updated section 9.5 for SDS to be requested by the servicing group.	Amanda Hall	RLT – 8/21/2014 VPP Committee- 7/17/2014	8/21/2014	8/21/2014
32	Removed information about TIMS monitoring system and clarified daily calibration requirements. 11.5.22	S. Kumpar	Safety	11/17/2014	11/17/2014
33	Revised section 4.3 and 12.0	Amanda Hall	RLT	5/28/2015	5/28/2015
34	Added bullet 4.24.1 to add to standard work practice 4.24	Amanda Hall	RLT & VPP	8/12/2015	8/12/2015
35	Procedural format change. Added bullet 4.24.2 for Nitrogen trucks and a note on pg. 22 for marking pipe & equipment before it is cut. – 3-year review.	Safety	Safety	8/12/2015	8/12/2015
36	Deleted and added verbiage to 7.3, also adding 11.3.3 and 11.3.4 with additional information.	Amanda	VPP 10/22/2015 RTL 10/29/2015	11/13/2015	11/13/2015
37	Removed Division Manager for Variance/Exception signature. Division Manager has authorized Operations/Maintenance Managers as a designee. Per 2015 Tier II API PSM Assessment	A. Morales	VPP/RLT	12/29/2015	12/29/2015
38	Added 6.16.1 per KMS item for permitting work in Safe Haven designation buildings.	Safety	Safety	1/7/2016	1/7/2016
39	Grammatical correction at 11.5.18 per KMS item	Safety	Safety	7/13/2016	7/13/2016
40	Added section 13.0 regarding temporary portable pumps MOC # M20173403-001	A. Fortie	VPP-4/20/17 RLT-4/27/17	5/1/2017	5/1/2017
41	1) Revised section 6.17 added examples of blanket work permits for invasive and non-invasive work. INC-153857, R20162801-003 M20173711-001 2) Added new section 6.25 Miscellaneous Buildings with DCS, PLC or Associated Network Systems, INC-158856, R20171377-004.	C. Berthelot	VPP-06/23/17 RLT-07/20/17	7/20/2017	7/20/2017

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Revision Number	Description of Change	Written by	Approved by	Revision Date	Effective Date
43	<p>Removed language from standard to go into another RSW:</p> <ul style="list-style-type: none"> o Line Breaking and Blinding Requirements (LOTO) o Hot Bolting (Hot Work) o Temporary Portable Pumps (Hot Work) o Non-Emergency Use & Repairs of Firewater and Equipment o Language for In-Service Welding (RDP-E200-GV) <p>Updates to the standard language:</p> <ul style="list-style-type: none"> o Operations to Owning Department/Maintenance to Servicing Representative o Contractor Acting as Owner Areas 	A. Fortie	<p>VPP- 8/28/2017</p> <p>RLT- 9/28/2017</p>	9/28/2017	9/28/2017
44	Added definition for blanket work permit. Added Operator performing hot work cannot write/issue own permit. Added reference to Minor Servicing Activities Matrix. Changed verification of de-energization to be required on the first day and night shift, prior to working on equipment. Routine triennial review.	C. Hughes	<p>VPP – 7/11/2018</p> <p>RLT – 7/19/2018</p>	7/19/2018	8/3/2018
45	Replaced the previous name of section 7.0 “Preparation for Permitted Work” with “Joint Job Site Visit (JJSV)” and updated the content in this section. General wordsmithing in sections 6.0, 6.1, and 6.22.8. PMOC # 052454	A. Fortie/C. Berthelot	<p>VPP –9/20/2018</p> <p>RLT – 9/20/2018</p>	9/20/2018	9/20/2018
46	Updated the Blanket Permitting language (section 6.16) to capture which jobs require a JJSV at each location. Updated the JJSV (section 7.2) to capture specific work tasks that require a JJSV. PMOC#56464	A. Fortie	<p>VPP- 11/14/2018</p> <p>RLT- 12/06/2018</p>	12/10/2018	12/10/2018
	Added language that installation and removal of blinds shall be covered under its own permit (section 6.15). PMOC# 56469	M. Babin	<p>VPP- 11/14/2018</p> <p>RLT- 12/06/2018</p>		
47	Added language to not require atmospheric gas monitoring for routine Hot Work B tasks along the Coker Belt/Dock 4 (Section 10.2.8.1) PMOC# 53845	M. Bennett	<p>VPP – 11/29/2018</p> <p>RLT – 2/7/2019</p>	2/25/2019	2/25/2019

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48	Updated the note in 7.2.1.5 to match the confined space checklist. PMOC # 50596	A. Fortie	VPP- 4/26/2019 RLT- 5/16/2019	5/24/2019	5/24/2019
49	Updated the language in section 6.15 for Routine/Normal Maintenance Installation of blinds and added section 6.16. for turnaround/unit outages installations of blinds. PMOC# 66015	A. Fortie	VPP - 10/2/2019 RLT – 10/3/2019	10/4/2019	10/4/2019
50	Replace phrase “Electrical Hot Work” language to “Energized Hot Work” to match RSP. 2019 HES Tier II Audit recommendation 174098.	Safety	Safety	11/12/2019	11/12/2019
51	Update phrases in 10.2.9 and 10.2.10 associated with opening enclosures in an electrically classified area to match RSP. 2019 HES Tier II Audit recommendation 174099.	Safety	Safety	11/13/2019	11/13/2019
52	Clarified the expectations of permitting or installation and removal of PIP/Battery Limit Blinds during turnarounds.	A. Fortie	VPP-01/23/2020 RLT- 02/06/2020	02/09/2020	02/09/2020
53	Update for work scope change requirements and Maintenance Zone Coordinator to sign Invasive Permits	Safety	VPP – 7/15/2020 RLT – 7/30/2020	7/30/2020	8/31/2020
54	Period Review – No Changes	J. Morgan	Safety	8/10/2021	8/10/2021
55	Update LDAR monitoring non-permit activity, Clarify JJSV Language Requirements 7.2.2. Align RSW with permit for signature title and requirements	S. Scott	VPP 8/28/2024 RLT 9/19/2024	10/21/2024	10/21/2024