

Marathon Petroleum Company LP		
General Safety Rules	Document No.: RSW-SAF-001-DT	Approval Date: 06-05-19
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1.0 PURPOSE

This procedure describes the general safety rules that apply to the Michigan Refining Division. In case of conflict with other rules for specific situations, the specific rules take precedence.

2.0 SCOPE

These rules apply to all work and all people at the Michigan Refining Division.

3.0 PROCEDURE

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[MICHIGAN REFINING DIVISION MISSION & VISION STATEMENT](#)

Please use the link above to view MRD's Mission and Vision Statement.

3.1 GENERAL SAFETY RULES

3.1.1 First Aid

3.1.1.1 In the event of a serious medical emergency, all MRD employees are authorized to call for emergency medical care. To call for emergency care, call Security (use Zone 3 Main Complex 1 on plant radios, dial 6911 from any plant telephone, or dial 313-297-6911 from an outside line) and state your name and the location of the individual and request assistance. Call your supervisor to request assistance but do not leave the individual.

3.1.1.2 All injuries occurring on the job must be reported immediately to your supervisor and the MPC Nurse and treated at once. Refer to [RSW-SAF-037-DT Injury Management](#) for more details.

3.1.2 Eating and Drinking

3.1.2.1 Consumption of food or beverages is not permitted in any area where there is exposure to dusts or toxic materials.

3.1.3 Designated Smoking Areas (DSA)

3.1.3.1 Smoking, including electronic cigarettes, is not allowed within the refinery except in designated areas.

3.1.3.2 Permanent and Temporary Designated Smoking Areas Approval

3.1.3.2.1 The requestor must request to establish a DSA using the [Designated Smoking Area Form](#).

3.1.3.2.2 The top portion of the Designated Smoking Area Form must be completed and routed by the requestor to the responsible parties for review and approval.

3.1.3.2.3 After the location is approved, the smoking area may be constructed. When the smoking area is ready for use, the bottom portion of the Designated Smoking Form must be completed and routed by the requestor to the responsible parties for review and final approval.

3.1.3.3 Once the Designated Smoking Area Form is approved, the requestor is responsible for submitting the DSA location to the Document Control Coordinator to be added to the master site map.

3.1.3.4 The Safety Department will maintain the approval forms (as of the date of revision 55).

3.1.3.4.1 A Temporary DSA will remain on the master site map until its expiration date at which point the area shall be closed and removed from the master site map.

3.1.3.5 Designated Smoking Areas must:

- 3.1.3.5.1 Be located outside, not within 6 feet of a door, window, ventilation system, or access to a building entrance.
 - 3.1.3.5.2 Not be allowed in any area that is considered a work area.
 - 3.1.3.5.3 Not be a rigid, enclosed building/structure
 - 3.1.3.5.4 Contain an approved cigarette receptacle. (must be self-extinguishing)
 - 3.1.3.5.5 Contain a 20lb dry chemical fire extinguisher
 - 3.1.3.5.6 Not contain any flammable or combustible material including seating, tables, or any non-flame resistant item.
 - 3.1.3.5.7 Contain a "Designated Smoking Area" sign
- 3.1.3.6 Designated Smoking Areas must be maintained in a clean condition by the smokers that use them. If an area is not properly maintained it will be shutdown.

3.1.4 Beards and Hair

- 3.1.4.1 Beards are prohibited within the refinery. Mustaches and short sideburns are permitted if they do not interfere with the facial seal of protective breathing devices. Refer to [RSW-SAF-070-DT Respiratory Protection Plan](#) and [RSW-SAF-070-Form1-DT Facial Hair Poster](#) for more details.
- 3.1.4.2 Delivery people with beards are allowed only in areas where safety glasses is the only PPE required. Other exceptions may be approved by the appropriate Department Manager using the beard waiver form, located in [RSW-SAF-052-DT Refinery PPE Policy](#).
- 3.1.4.3 Hair longer than shoulder length must be tied up and put up under hard hats, under clothing or tied up above the shoulders (e.g., putting up in a bun) so that exposed hair does not pose a hazard (entanglement or otherwise) when working in the process units, maintenance shops, construction areas, laboratory, around open chemical containers and any rotating equipment.

3.1.5 Hygiene

- 3.1.5.1 Avoid skin contact with chemicals, hydrocarbons or any other potentially harmful substances by using the proper protective equipment. Refer to SAF-052 Personal Protective Equipment.
- 3.1.5.2 Always wash hands after removing gloves and before eating or smoking.
- 3.1.5.3 Clothes should be kept reasonably clean and free of oil at all times. Clothes that become accidentally saturated with petroleum products or chemicals should be immediately removed and replaced with clean clothes.
- 3.1.5.4 Never use gasoline or other refinery products to clean yourself, clothing, tools or equipment.

3.1.6 Process Area Work

- 3.1.6.1 All non-departmental personnel must check in and out with the Area Operations personnel by signing in the log in book in each control room. For more information, refer to [RSW-SAF-068-DT – Process Unit Visitor Logs](#).
- 3.1.6.2 Formal permission to work in the process units and tank farms must be secured with a Safe Work Permit before any work is started. Refer to [RSW-SAF-006-DT Safe Work Permit Procedure](#) .

3.1.6.3 Dual Purpose Lines (Yellow Lines)

3.1.6.3.1 No vehicle may cross the yellow lines without permission from operations and atmospheric testing.

3.1.6.3.2 Hearing Protection is required within the yellow lines.

3.1.6.4 When maintenance work has been completed (job completed, finished for the day, etc.), the appropriate Operations personnel must be notified of its status.

3.1.6.5 Duffel bags, back packs, tool bags, tool boxes and similar objects must be labeled to indicate the name of the contact person and the company they work for.

3.1.6.6 A cable must be installed on overhead chain wheel valves to protect against injury due to a falling chain wheel. One end is attached to the chain wheel and the other to the permanent part of the valve or similar permanent object.

3.1.6.7 Hanging chains must be covered or drawn to the side where there is a risk of entanglement. Covers are stocked in the warehouse.

3.1.6.8 Valve stems, both horizontal and vertical, less than 7ft from a working surface must be covered to prevent impalement. Valve stem covers are stocked in the warehouse.

3.1.7 Severe Weather, Refer to [ERP-012 Emergency Response Plan – Severe Weather](#)

3.1.7.1 Severe Weather Shelters

3.1.7.1.1 When severe weather, such as a tornado, is imminent personnel will be directed to enter the severe weather shelters. These shelters are depicted on the Safety [equipment plot plans](#) located on the [Safety Web Page](#).

3.1.7.2 Lightning – See [Lightning Safety RSW-SAF-093-DT](#)

3.1.7.3 High winds

3.1.7.3.1 No one will work outside in winds higher than 55 mph sustained, unless emergency conditions warrant it.

3.1.7.3.1.1 In an emergency, special precautions must be taken to ensure stability and protection from flying objects (e.g., goggles for eye protection).

3.1.7.3.1.2 If specific conditions such as tornado warnings are present with winds at or above 55 mph sustained, no work is permitted outside.

3.1.7.3.2 Work above grade is not permitted when winds are above 45mph sustained.

3.1.8 Emergency Response See the [Emergency Response Plan](#) for more information.

3.1.8.1 To report an emergency, use zone 3 channel 1 on Kenwood radio or Marathon LTR, MainCX1 on Motorola radios, dial 6911 from any plant telephone, or dial 313-297-6911 from an outside line.

3.1.8.2 Emergency evacuation exits and mustering points have been identified for each area. Refer to the safety equipment plot plans, located on the Safety Web Page, for specific locations.

3.1.8.3 Alarms

3.1.8.3.1 During refinery emergencies, the emergency alarm will

sound.

3.1.8.3.1.1 The alarm is a variable pitch siren lasting one minute.

3.1.8.3.2 During LPG emergencies, the LPW alarm will sound and the red lights will flash.

3.1.8.3.2.1 The alarm is a “whoop, whoop” sound.

3.1.8.3.3 The alarms are tested every Saturday at 1pm.

3.1.8.3.4 When the alarm sounds

3.1.8.3.4.1 Stop all work.

3.1.8.3.4.2 Shut down all vehicles, machines, power tools, and heavy equipment.

3.1.8.3.4.3 Proceed to the nearest emergency exit on foot, traveling upwind or crosswind.

3.1.8.3.4.3.1 Orange windsocks are located throughout the refinery to help determine wind direction.

3.1.8.3.4.4 Do not reenter the refinery until the “All Clear” is announced over all radio channels.

3.1.8.4 Non-essential personal removal

3.1.8.4.1 In some instances, such as equipment malfunction and shutdown, it may be necessary to remove all non-essential personnel from the Operations Process Units. Refer to [RSW-SAF-039-DT Removal of Non-Essential Personnel](#).

3.1.9 Fire Fighting Equipment and Emergency Routes

3.1.9.1 Employees should be familiar with the locations and operation of all fire and safety equipment within their work area.

3.1.9.2 Firefighting equipment, except fire hydrants, is for emergency use only. Refer to the procedure for [RSW-SAF-003-DT Non-Emergency Use of Fire Water System](#).

3.1.9.3 Firefighting equipment and emergency routes are to be kept free from obstruction unless approved by the Safety Department and Owning Department.

3.1.9.4 During the cold weather months, fire hydrants must be kept pumped out when not in use or they may freeze. Prior to using a hydrant, contact an Owning Department Representative and they will make arrangements to have it winterized again.

3.1.9.5 When connecting water hoses from hydrants to refinery process unit equipment, tanks or any other equipment, two separate and distinct check valves shall be installed between the water hose and the equipment involved. The check valves should be installed as near as possible to the equipment rather than the hydrant.

3.1.9.6 Hoses of any type are not to be attached to the discharge end of a fire water monitor. The swivel joints are not designed to support the additional weight of the hose and water.

3.1.9.7 Fire water monitors are not to be used for area wash down, except in case of emergency.

3.1.10 Flashlights - Only intrinsically safe flashlights are permitted in the plant.

3.1.11 Space Heaters- Space Heaters are not permitted to be used. This does not include heaters used in the refining process with an approved MOC.

3.1.11.1 **Exception for use of space heaters:** When deemed essential to the safety of a work crew, space heaters may be approved through the safety department. (For example, loss of heat in an overhead crane, guard posts, the cutting deck, etc.). A safe work (hot work) permit and exception form, is required. The space heater must industrially rated with:

- UL certification
- 3 prong grounded plug
- Power indicator light
- tip overprotection
- auto overheat shut off protection
- audible alarm

3.1.12 Cameras

3.1.12.1 Cameras may be used by non-MPC employees in the refinery with an approved [camera pass](#).

3.1.12.2 [Camera Passes](#) must be approved by the Safety Supervisor, Security Supervisor, or the HESS Manager.

3.1.12.3 Marathon employees are not required to obtain a [camera pass](#) to take pictures.

3.1.12.4 Camera use requires a hot work permit with continuous air monitoring, except in areas where non-intrinsically safe devices are permitted to be used. Approved intrinsically safe or explosion proof cameras do not require a safe work permit or continuous air monitor in any area.

3.1.13 Cell Phones and Electronic Devices- For complete details, refer to [Portable Electronic Device Use and Restrictions Policy](#)

3.1.14 Housekeeping – For complete details, refer to [RSW-SAF-065-DT – Housekeeping Standard](#).

3.1.15 Barricades and Railings-Barricades, including warning tape and flags, must be erected to restrict mobile and personnel traffic into areas that could present a potential hazard. For more information on barricades and railings refer to [RSW-SAF-043-DT-Barricade Procedure](#).

3.1.16 Safety Tags – Several tags are available in order to communicate safety measures or hazards. See the [Safety Tag Poster](#) for more information.

3.1.17 Personal Protective Equipment – Refer to [RSW-SAF-052-DT Personal Protective Equipment Policy](#)

3.1.18 Respiratory Protection – Refer to [RSW-SAF-070-DT Respiratory Protection Plan](#)

3.1.19 Hearing Conservation – Refer to the [Hearing Conservation Program](#)

3.1.20 Safety Harnesses – Refer to [RSW-SAF-066-DT Fall Protection](#).

3.1.21 For information regarding Instrument Analyzer Buildings and proper entry procedures refer to [RSW-SAF-056-DT Safe Use of Nitrogen](#).

3.2 VEHICLES

3.2.1 Powered vehicles

- 3.2.1.1 Permission must be obtained by the responsible party each time to drive powered vehicles in process units (across yellow lines), tank dikes or other restricted areas.
- 3.2.1.2 Also refer to security policy [SEC-009 Vehicle Control Plan](#)
- 3.2.1.3 The speed limit within the refinery is 14.5 mph, unless otherwise posted. Drive with caution, do not exceed the speed limit, and obey all traffic signs.
- 3.2.1.4 The driving of vehicles in standing water must be limited within the refinery or on roadways surrounding the refinery, tank farms and the Rouge Terminal. Driving in deep standing water or water with a current can be dangerous. If there is ever a time when the depth of the water is questionable all operators of vehicles should find an alternative route.
- 3.2.1.5 Vehicles may not be left running and remote starts* may not be used within the refinery's main fence line and tank farms. This includes
- East Plant, including parking lots around 7B Warehouse, Bldg 45, and Toronto; Waring Street, the Black Box/Training Center, Crude and LPG Tank Farms
 - All of West Plant, including the employee parking lot
 - All of North Plant
 - Melvindale, CP, Rouge Tank Farm
- This rule does not apply to offsite locations including:
- 11B
 - Laboratory
 - NES Area
 - New Administration Building

* Remote starts are only allowed to be used when the vehicle owner has view of their vehicle and is aware that plant surroundings appear to be safe for the vehicle to start.

- 3.2.1.6 Some diesel-driven equipment and gasoline powered cranes may require continuous operation, particularly in cold weather. In such cases, an operator shall maintain the following requirements in addition to the Safe Work Permit requirements:
- 3.2.1.6.1 sight of the vehicle,
- 3.2.1.6.2 the brakes must be set,
- 3.2.1.6.3 and the controls must be locked in a neutral position
- 3.2.1.7 Follow standard procedures for fueling from the refinery's gasoline pump. Put the vehicle in Park and shut off the motor. Do not use a cell phone or other electronic devices. Set portable containers on the ground before re-filling them. Use approved containers. Keep the nozzle in contact with the container. Do not get back into the vehicle during re-fueling. Remain in view of the nozzle.
- 3.2.1.8 Do not mount or dismount moving vehicles.
- 3.2.1.9 The number of personnel allowed in truck cabs and other vehicles is limited to the number of seat belts available for the riders. Riding in truck beds is prohibited.
- 3.2.1.10 Seat belts shall be worn by all riders in every vehicle when operated on public highways and within the plant.
- 3.2.1.11 Seat belts must be used at all times when operating a powered industrial truck, picker, crane, or other mobile equipment that is

- equipped with seat belts.
- 3.2.1.12 Upon warning of a gas, vapor or large liquid hydrocarbons spill in the area, immediately shut off the engine and move to a safe place on foot.
 - 3.2.1.13 Vehicles parked outside of designated parking spots must have the keys left in the ignition.
 - 3.2.1.14 Cranes, forklift trucks, carry deck cranes, trucks, and similar equipment have the right-of-way when carrying a load. Yield to them by pulling to the side and stopping. Get the attention of the driver before passing these vehicles from behind by honking your horn or some similar means.
 - 3.2.1.15 All equipment being towed must be safely hitched and secured and have operating brake lights.
- 3.2.2 Trailer Hitch Safety – After use of a trailer hitch on a refinery vehicle, the hitch must be removed immediately and stored until the next use.
- 3.2.3 Railcars
- 3.2.3.1.1 When working around rail cars, the wheels must be chocked.
 - 3.2.3.1.2 Refer to Railcar Inspection Guideline Doc. No. SOG-05-32-304 and General Service Tank Car Inspection Form MPC-RRTC-2.
- 3.2.4 Bicycles -For information on the use and maintenance of bicycles please refer to [RSW-SAF-067-DT Bicycle Procedure](#) for more information
- 3.2.5 Foot Travel
- 3.2.5.1 Running is prohibited except in an emergency.
 - 3.2.5.2 All persons entering a process area or tank farm area must inform the responsible Operations personnel of their presence in the area and sign in the log book in each control room. For more information, refer to [RSW-SAF-068-DT Process Unit Visitor Logs](#).
 - 3.2.5.3 Do not walk through restricted areas without approval of the appropriate Operations personnel. Proper protective clothing and equipment is required at all times for all personnel in restricted areas.
 - 3.2.5.4 Do not walk through barricaded areas without approval.
 - 3.2.5.5 Avoid climbing up or down the banks of tank farm dikes. Use the steps or vehicle ramps for access and egress.
- 3.2.6 Cranes, Hoists, Etc. – These are only general guidelines. For additional information, refer to [RSW-SAF-029-DT Rigging and Lifting](#)
- 3.2.6.1 The Rigging and Lifting Procedure provides guidelines and defines the requirements necessary to insure that all crane lifts are completed safely.
 - 3.2.6.2 Riding the ball or load connected to the line of a crane is strictly prohibited.
 - 3.2.6.3 Check with Operations after parking heavy equipment to ensure that it does not block a flare monitor CEM. If a crane or heavy equipment is to be left on-site keys to the crane should be left in the cab. Additionally, the name and phone number of the crane operator should be left with Operations, if the vehicle is parked in a process unit, or with Maintenance, if in a yard or outside battery limits. These are essential in the event of an emergency.

- 3.2.6.4 The Crane Maintenance Log should indicate satisfactory results of a daily inspection prior to the lift.
- 3.2.6.5 Slings and chokes are to be checked before each use and returned to the designated storage area. Defective slings and chokes are not to be used.
- 3.2.6.6 Signals or radio instructions shall be given by one person using the standard signals posted in the crane cab.
- 3.2.6.7 Tag lines shall be used where appropriate as determine by the crane operator.
- 3.2.6.8 Before commencing the lift:
 - 3.2.6.8.1 See that the hook is properly positioned to prevent the load from swinging when lifted.
 - 3.2.6.8.2 Hook shall be equipped with a safety catch or other device to prevent cable from slipping off the hook.
 - 3.2.6.8.3 Lift cables are not to be wrapped around the load. Use slings.
 - 3.2.6.8.4 Keep all personnel away from the area below the boom or load.
 - 3.2.6.8.5 Keep all personnel clear of the swing radius of operating equipment and away from the area where they might be injured by cable whip if the cable breaks.
 - 3.2.6.8.6 Barricade the swing radius of the cab and counterweights if any part swings less than seven feet above the ground or presents a crushing hazard.
 - 3.2.6.8.7 Never lift a load greater than the 90% capacity of the lifting equipment. If there is any question, determine the weight of the load before making the lift.
 - 3.2.6.8.8 Maintain sufficient clearance from electrical lines as specified in [RSW-SAF-029-DT Rigging and Lifting](#).
- 3.2.6.9 When using a boom truck, winch truck or carry deck crane to transport equipment, the load shall be securely tied off to prevent swinging. An employee with tag line shall walk with the truck or carry deck crane to guide the suspended loads.
- 3.2.6.10 Sharp corners of objects to be lifted shall be padded where they contact the sling(s) to prevent cutting or weakening of the sling.
- 3.2.6.11 Inspect overhead hoist thoroughly before lifting heavy loads. Never load hoists over the rated capacity or walk under suspended loads.
- 3.2.7 Operation of Miscellaneous Powered Equipment (fork lifts, boom trucks, cranes, back hoes, JLG's, "Gators," etc.)
 - 3.2.7.1 Only properly trained and authorized personnel are permitted to operate powered equipment.
 - 3.2.7.2 Inspect appropriate mobile and maintenance equipment following the requirements of [RSW-SAF-016-DT Equipment Inspection for Mobile Equipment/Maintenance Equipment procedure](#).
 - 3.2.7.3 Personnel cannot ride on powered equipment unless there is a designated passenger seat.
 - 3.2.7.4 Equipment operating near the edge of ditches, embankments, ramps,

docks, etc., should maintain at least one foot clearance on both sides. If the operator is uncomfortable with the clearance, the work should be stopped and the Foreman and a Safety representative consulted.

- 3.2.7.5 Check for head room before driving or working under an overhead installation (piping, pipe racks, power lines, etc.). A minimum clearance of ten feet is required between an overhead power line of 50,000 volts or less and any electrically conductive equipment. Higher voltages require greater clearances.
- 3.2.7.6 Park equipment so that it doesn't block fire aisles, stairway accesses, and fire equipment.
- 3.2.7.7 Proceed with caution when approaching intersections where vision is obstructed. Sound horn when appropriate. In other areas where vision is restricted, such as backing up, a flagman should be used.
- 3.2.7.8 Do not carry lumber, pipe or other excessively long loads with a fork lift.
- 3.2.7.9 Powered equipment shall be used only for the purpose intended.
- 3.2.7.10 When leaving powered equipment unattended:
 - 3.2.7.10.1 Make certain it does not block roads, fire aisles or access to stairways and equipment.
 - 3.2.7.10.2 Lower forks, shovel, boom, etc., and secure if required.
 - 3.2.7.10.3 Neutralize controls.
 - 3.2.7.10.4 Shut off power when on any Marathon owned property (See section 3.2.1.6 if equipment needs to be left running).
 - 3.2.7.10.5 Set brakes.
 - 3.2.7.10.6 Leave the key in the ignition.
 - 3.2.7.10.7 Block wheels if parked on an incline.
- 3.2.7.11 Use special caution when moving or working on inclines, wet or otherwise slippery surfaces, and when making turns or operating in an area where movement is restricted by fixed objects, other equipment or personnel.
- 3.2.7.12 Check equipment before use. If, at any time, powered equipment is found to be in need of repair, defective or is for any reason unsafe to use, it shall be taken out of service until it has been restored to safe operating condition.
- 3.2.7.13 Do not operate powered equipment without proper authorization inside process unit battery limits, tank dikes or other areas where flammable vapors may be present.
- 3.2.7.14 Gasoline fuel tanks shall not be filled while the engine is running.
- 3.2.7.15 Spilled fuel or oil shall be washed away and the filler cap replaced before starting the engine.
- 3.2.7.16 Equipment that has a fuel system leak shall not be operated until it has been repaired.
- 3.2.7.17 Forklift trucks are to be driven with forks at approximately curb height with tips angled upward. Rough-terrain forklifts should be driven with the forks elevated to permit operator vision on both sides of the vehicle.
- 3.2.7.18 Drums carried on a pallet should not overhang the sides or the pallet. Those that overhang the sides must be secured either to the pallet or each other.

3.2.8 Vacuum Trucks

- 3.2.8.1 Vacuum trucks require permission and inspection of the truck, from the Environmental Department, prior to entry into the plant. Once inspected the truck will be given a sticker that allows the truck in the plant for one year, at which time re-inspection must be completed. Depending on the use for the truck the inspection may be waived by the Environmental Department.
- 3.2.8.2 Vacuum trucks must not off-load material into any city sewer. Special permission must be given by Operations and Complex 1 for material to be placed into all other refinery sewers.
- 3.2.8.3 Jobs that require the use of carbon canisters to eliminate odor, benzene or VOCs must have a flame arrestor between the truck and the carbon canister.

3.3 **WORKING AT HEIGHTS** (platforms, portable and fixed ladders, stairways, scaffold, working overhead, etc.) – See [RSW-SAF-066-DT, Fall Protection](#) and [RSW-SAF-093-DT Scaffold Erection and Use](#).

3.4 WORKING SAFELY

- 3.4.1 Material Transfers - Always follow procedures for loading/unloading specific products. Refer to [RSW-SAF-027-DT Chemical and Bulk Material Delivery and Transfer Procedure](#).
- 3.4.2 Hand Tools
 - 3.4.2.1 Check tools before use to be certain they function properly and are suitable for the job.
 - 3.4.2.2 Unplug electrical hand tools before servicing or adjusting them or passing them to a different level.
 - 3.4.2.3 Tools must be properly guarded in accordance with MIOSHA and manufacturer's recommendations.
 - 3.4.2.4 Valve Wheel wrenches must be equipped with a feature, such as a "knuckle" or the "SURGRIP" style wheel wrench, to "lock" onto the valve and minimize the chance of the wrench slipping off the wheel when force is applied for refinery wrenches larger than 10".
 - 3.4.2.5 Use of a "cheater" or extending the handle on tools is prohibited.
 - 3.4.2.6 All of the following hand-held tools shall be equipped with a constant pressure control switch or control:
 - 3.4.2.6.1 Grinders
 - 3.4.2.6.2 Heat guns
 - 3.4.2.6.3 Reciprocating saws
 - 3.4.2.6.4 Jig Saws
 - 3.4.2.6.5 Similar operating tools
 - 3.4.2.7 Lifting bags must be rated for the load they are carrying. Buckets may not be used to hoist material.
 - 3.4.2.8 If possible, materials should come with pre-drilled pilot holes. If existing material requires modification or requires field drilling of pilot holes the following shall be considered.
 - 3.4.2.8.1 Use of step bits when metal thickness is 1/8 inch or less
 - 3.4.2.8.2 Use of a punch to reduce kick back

3.4.2.8.3 Stepping up bits (e.g. 1/8" bit to 3/8" bit to 1/2" hole)

- 3.4.3 Custom Tools – [RSW-SAF-001-FORM03-DT Custom Tool Approval Form](#) must be completed for all tools manufactured on site. The signed form and any associated drawings must be maintained by the department utilizing the tool for the duration of the tool use on site and must be available upon request.
- 3.4.4 Trenches and Excavations – For more information refer to [RSW-SAF-021-DT Excavations and Ground Penetration Procedure](#)
- 3.4.5 Confined Spaces - Before anyone can enter a confined space, a Confined Space Entry Permit must be obtained. See [RSW-SAF-010-DT Confined Space Entry Procedure](#) for details.
- 3.4.6 Hoses - Refer to [RSW-SAF-055-DT Utility Hose Guidelines](#).
- 3.4.7 Manual Lifting
- 3.4.7.1 Determine if the load can be moved by other means.
- 3.4.7.2 Check the object for conditions, such as splinters, which can cause hand injury.
- 3.4.7.3 Bend knees and squat down to the object to be lifted. NOTE: Do not bend over load since strain can result by bending back.
- 3.4.7.4 When carrying a load and a change of direction is required, turn the feet instead of twisting the body in the direction of the desired motion. NOTE: Twisting of the body while lifting can cause back injury.
- 3.4.7.5 If the load requires more than one person to lift manually, working together is essential.
- 3.4.8 Compressed Gas Cylinders - For proper use, storage & handling of compressed Gas Cylinders refer to [RSW-SAF-062-DT Hot Work procedure](#).
- 3.4.9 Welding and Cutting Operations - See [RSW-SAF-062-DT Hot Work procedure](#).
- 3.4.10 Line Breaking/Blinding - Installation of blinds and line breaking is a common but critical practice with the refinery. Refer to [RSW-SAF-008-DT Blinding/Line Breaking Requirements procedure](#).
- 3.4.11 Electrical
- 3.4.11.1 Electrical Safety Qualified Person - Refer to [RSW-SAF-064-DT Electrical Safety Program](#).
- 3.4.11.2 Substations
- 3.4.11.2.1.1 Substations with switchgear operating at 4160 volts or greater will remain locked.
- 3.4.11.2.1.2 Access is limited to "Qualified Personnel". Unqualified people may enter only when escorted by a qualified person.
- 3.4.11.3 General
- 3.4.11.3.1 36" clearance is required in front of electrical panels.
- 3.4.11.3.2 Powered electrical equipment shall have an on-off switch.
- 3.4.11.3.3 Portable equipment and cords must be handled in a manner which will not cause damage.
- 3.4.11.3.3.1 Flexible electric cords that are connected to equipment shall not be used for raising and lowering equipment,
- 3.4.11.3.3.2 Flexible cords shall not be fastened with staples or otherwise hung in a manner that could damage the

outer jacket or insulation.

3.4.11.3.4 Cords shall be protected from accidental damage.

3.4.11.3.4.1 Care should be taken to assure that they do not come into contact with steam, condensate, or hot process piping.

3.4.11.3.5 Portable cord and plug-connected equipment and flexible cord sets (extension cords) shall be visually inspected before use on any shift for external defects (such as loose parts, deformed and missing pins or damage to the outer jacket or insulation) and for evidence of possible internal damage (such as pinched or crushed outer jacket).

3.4.11.3.5.1 Cord-and-plug connected equipment and flexible cord sets (extension cords) which remain connected once they are put in place, and are not exposed to damage, need not be visually inspected until they are relocated.

3.4.11.3.6 An employee's hands shall not be wet when plugging and unplugging flexible cords and cord and plug connected equipment.

3.4.11.3.7 A cord shall not be routed in such a way that it blocks egress or causes a tripping hazard.

3.4.11.3.8 Cords should be routed and/or securely suspended with non-conductive supports well away from potential damage caused by personnel traffic, work in progress, or damp areas.

3.4.11.3.9 Suggested methods of protection at grade are to place the cord inside loose galvanized conduit by placing boards on either side and atop the cord or by rerouting the cord to avoid hazards.

3.4.11.4 Light Fixtures

3.4.11.4.1 Light fixtures less than 7 feet from the ground must have guards to protect the lamp from both liquid contact and physical impact. Vapor Proof lamps are preferred.

3.4.11.4.2 Lighting fixtures must not be hand-held; they should be mounted on stands or suspended via non-electrically conductive means.

3.4.11.4.3 Temporary lighting not classified for the area, must have a hot work permit.

3.4.12 Insulation

3.4.12.1 All insulation must be presumed to contain asbestos until it has been proven otherwise through testing or if it has distinct characteristics (i.e., fiberglass).

3.4.12.2 Follow [RSW-SAF-017-DT Asbestos Handling Procedure](#) when handling, cutting or removing insulation which contains asbestos. Consult with your supervisor as to its requirements.

3.4.13 Painting

3.4.13.1 Guard against undue exposure to paint ingredients. Personal protective equipment shall be worn in accordance with the paint

manufacturer's recommendations.

- 3.4.13.2 All existing paint must be presumed to contain lead until it has been proven otherwise through testing or existing paint specifications located in the Engineering files. For precaution to take when handling lead, refer to [RSW-SAF-014-DT Lead Abatement Procedure](#).
- 3.4.13.3 Precautionary measures to prevent fires shall be used when handling flammable products, such as paint thinners and cleaning solvents. When not in use, all paint and solvent cans must be covered and properly stored. All paint, paint thinners, and cleaning solvents shall be provided in properly labeled containers.
- 3.4.14 Pipefitting - A Safe Work Permit must be obtained before breaking into or blinding a line. See [RSW-SAF-002-DT Energy Isolation](#) and [RSW-SAF-008-DT Line Breaking/Blinding Procedures](#) for additional requirements.
- 3.4.15 Hot Work - A Hot Work Permit must be obtained before welding or burning is done. For more information on performing hot work, see [RSW-SAF-062-DT Hot work](#) and [RSW-SAF-006-DT Safe Work Permit Procedure](#).

4.1 DEFINITIONS

5.0 REFERENCES

Michigan Smoke Free Air Law

Wayne County Clean Indoor Air Regulation 2005-001

[RSW-SAF-001-FORM01 Camera Pass](#)

[RSW-SAF-001-FORM02 Designated Smoking Area Approval Form](#)

[RSW-SAF-001-FORM03 Custom Tool Approval Form](#)

6.0 REVISION HISTORY

Revision number	Description of change	Written by	Checked by	Effective date
58	Relocated Instrument Analyzer Building information to Safe Use of Nitrogen	S. Kumpar	S. Kumpar	2/21/18
59	Added language to consider the use of step bits, use of punches and stepping up bits when drilling pilot holes (Section 3.4.2.8)	W. Merrifield	J. Rabideau	03/20/18
60	Updated Section 3.2.1.5 to include New Administration Building and Black Box/Training Center and 3.2.1.6 to include requirements for leaving gas powered cranes in operation during cold weather for hydraulic purposes.	W. Merrifield	J. Rabideau	1/30/2019
61	Added form and requirements for custom tools	E. Neubauer	J. Rabideau	02/06/19

62	Removed Lightning Info and linked New Lightning Policy	B. Dibert	Frank Ebbert	6/5/2019
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