HSS-607 Abrasive Blasting

Overview

Purpose

The purpose of this document is to provide the minimum safe work requirements for performing abrasive blasting to remove surface coatings at the Marathon Petroleum Company LP (MPC) Los Angeles Refinery (LAR).

Note: More stringent requirements may augment this Standing Instruction for any situation. If a problem is encountered where the requirements within this Standing Instruction cannot be met, personnel SHALL stop and consult with a Safety Professional to determine if a variance is required.

Scope

The scope of this document applies to all abrasive blasting activities that are performed at the LAR. Environmental requirements associated with abrasive blasting are addressed in the LAR Standing Instruction TENV-215.

Records Retention

Printed copies of this document should not be retained more than 12 months. Any revision to this document will be retained a maximum of 10 years following the revision.

Supersedes

This document supersedes FS-512 Abrasive Blasting for Above Ground Storage Tanks.

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1.0 References

1.1 Refining References

The table below lists the Refining references used with this document.

Number	Description
HSS-201	Safe Work Permit
HSS-405	Respirable Crystalline Silica Exposure Prevention
HSS-306	Respiratory Protection Program
HSS-004	Site Variance Procedure and Form
HSS-008	Control of Hazardous Energy
FS-660	Safe Entry of Top of Tanks in Service
FS-485	Lead and Exposure Prevention Program
RSP-1127-000	Confined Space Entry
RSP-1128-000	Safe Work Permit
TENV-215	Abrasive Blasting (Environmental Standing Instruction)

1.2 Industry References

The table below lists the industry references used with this document.

Number	Description
ANSI Z9.4	Abrasive Blasting Operations - Ventilation and Safe Practices
API 2027	Ignition Hazards and Safe Work Practices for Abrasive Blasting of Atmospheric Storage Tanks in Hydrocarbon Service, 4th Edition

1.3 Regulatory References

The table below lists the regulatory references used with this document.

Number	Description
Title 8, California Code of Regulations, Section 5189.1	Process Safety Management for Petroleum Refineries

1.4 Terms

The following terms are used in this document:

- Abrasive Blasting
- Abrasive Grit or Media
- Automatic Safety Shutdown System
- Bonding
- Type CE Respiratory Protection

- Dry Abrasive Blasting
- Silica Containing Material
- Wet Abrasive Blasting
- Whip Lock (Check)

Reference: For details, see Appendix A: Terms and Definitions.

2.0 Roles and Responsibilities

2.1 Roles and Responsibilities

The table below describes the roles and responsibilities related to this document.

Roles	Responsibilities
Safety Department	(a) Develop, maintain, and update this Standing Instruction. (b) Evaluate industry standards and specifications of Safe Work Practices as they become available or change for inclusion into this Standing Instruction.
Owning Department/Permit Writer	(a) Act as owners of the location where abrasive blasting takes place and issue/manage the Safe Work Permit process. (b) Ensure communication of any hazardous chemical last contained in equipment to the abrasive blasting crew. (c) Inspect abrasive blasting jobs for compliance per Safe Work Permit Standing Instruction (e.g., once per shift).
MPC Planner	(a) Ensure the lead content of material being removed is determined by contacting Health and Safety.
MPC Maintenance Coordinator	(a) Ensure personnel who fall within his/her area of responsibility have completed required training.
Contractors Conducting Abrasive Blasting/ Servicing Group	(a) Follow the practices required by this Abrasive Blasting Standing Instruction. (b) Conduct daily inspections of all abrasive blasting equipment and complete required documentation. (c) Ensure that all contractor personnel operating abrasive blasting equipment are trained per Section 5 of this Standing Instruction and can provide documentation of that training upon request. (d) Monitor and operate the abrasive blasting equipment per the manufacturer recommendations. (e) Obtain all required Safe Work Permits. Ensure that the Abrasive Blasting Form (A02) is completed prior to receiving a permit for abrasive blasting. If abrasive blasting on live equipment, ensure that an approved Abrasive Blasting on Live Equipment Form (A04) is completed prior to receiving a permit. (f) Ensure that all equipment meets the specifications required by this Standing Instruction.

3.0 Guidelines

3.1 Selection of Abrasive Blast Media

3.1.1 For abrasive blasting media, alternatives to silica containing material are generally less toxic and should be selected when their use is feasible. If silica containing material is to be used, the requirements in the Respirable Crystalline Silica Exposure Prevention Standing Instruction (HSS-405) apply as well as the requirements in Section 3.4 of this Abrasive Blasting Standing Instruction.

3.2 Pre-Job Planning

3.2.1 Determine the lead content of material being removed by contacting Health and Safety.

3.2.2 Check the surrounding areas to determine what effect the abrasive blasting may have on personnel or what effect the surrounding environment may have on the abrasive blasting.

3.2.3 Barricades shall be erected at a distance that would prevent anyone outside the barricade from being injured (including overhead operations) by a failure of the equipment or from the abrasive blasting media.

3.2.4 Ensure that everyone on the abrasive blasting crew understands their responsibility to shut down abrasive blasting operations if unauthorized personnel enter the barricaded area.

3.2.5 Provisions must be established for the collection and/or disposal of the hazardous waste and runoff.

3.2.6 Consider the accessibility of utilities, such as water or electric. Avoid running hoses, electric cords, etc., across roads and high traffic areas whenever possible. If hoses must be placed across roadways, hose ramps shall be used, or the road must be closed to protect from damage.

3.2.7 Ensure that good housekeeping is maintained throughout the job. Poor housekeeping, especially tripping hazards, could lead to serious injuries.

3.2.8 Make sure permission to set up, attaching to utilities, Safe Work Permits, etc., are obtainable in the area.

3.2.9 If abrasive blasting is being performed in close proximity to other work crews, ensure there is adequate spacing to prevent one job from creating a hazard to another job.

3.2.10 Ensure that all required approvals are in place if fire hydrants are used as a water utility. Make sure that fire hydrants are operated properly.

3.3 Abrasive Blasting Requirements

3.3.1 Abrasive blasting is a Non-Attended Hot Work task. Follow the requirements in HSS-201 when permitting this type of work.

3.3.2 For CO2 pellet blasting, continuous multi-gas monitoring is required by crew member (without any other duties).

3.3.3 Equipment to be abrasive blasted must be positively isolated from hazardous energy, depressured, deinventoried, gas-free, and vented. For entry onto tank roofs, follow HSS-008 and FS-660.

3.3.4 If there is a request to perform abrasive blasting on live equipment, a safety plan must be developed and the following personnel must provide approval via the Abrasive Blasting on Live Equipment Approval and Mitigation Form (Appendix B): Operations Area Team Leader, Inspection Supervisor, and Safety Manager.

3.3.5 If removing paint/coating containing lead, follow the Lead Exposure Prevention Standing Instruction. When removing lead containing material, full containment is required with mechanical ventilation and dust collection.

3.3.6 Personnel (contractors and MPC employees) performing abrasive blasting must use CARB certified abrasive blast media.

3.3.7 Proper containment must be used to contain media and dust.

3.3.8 Barricading of the job site hazards is required on every abrasive blasting job and should be a minimum of 10 feet in all directions from the blasting location. All barricades should have four sides and have signage or tags that indicate “Danger” to identify that abrasive blasting work is being done.

3.3.9 The automatic safety shutdown system must be tested prior to starting work. Trigger locks cannot be used on the automatic safety shutdown system.

3.3.10 The Abrasive Blasting Form in Appendix C must be completed prior to receiving a Safe Work Permit.

3.3.11 Fiber rope shall not be used near blast operations for hanging suspended staging. Wire core rope shall be used.

3.3.12 Abrasive blasting can generate high voltage static electricity, particularly in dry air. This is a particular concern when blasting on

tanks or other equipment that contained flammable materials, or in areas where flammable materials may be present. Grounding requirements are addressed in Section 3.7.1 of this Standing Instruction.

3.3.13 Blasting equipment including the compressor, blasting machine, conductive hose with metallic hose couplings, blast shield, nozzle and the equipment being blasted shall be at the same electric potential through bonding attachments. See API 2027 "Ignition Hazards and Safe Work Practices for Abrasive Blasting of Atmospheric Storage Tanks in Hydrocarbon Service" for additional information on blasting tanks or other equipment that contained flammable hydrocarbon material.

3.3.14 In addition to ignition by static electric discharge, other potential ignition sources include internal combustion or electrically powered air compressors, sparks from abrasive grit striking metal being blasted, hot metal surfaces of equipment being blasted, and pyrophoric iron sulfide exposed to air as a result of blasting.

3.3.15 Necessary Safe Work Permits (e.g., hot work, confined space, etc.) shall be obtained before the start of any abrasive blasting job. The abrasive blasting crew must always check for current permits at the beginning of each shift.

3.3.16 Hose end restraining devices (whip locks/checks) shall be used on all connections to prevent hose whipping and adjusted in such a way that any pulling or tugging stresses are absorbed by the whip check and not stress the connection.

3.3.17 All fittings used to connect nozzles and hoses must be rated at least to the Maximum Allowable Working Pressure (MAWP) of the pump or compressor.

3.3.18 Personnel must never place hoses under arms, near neck or face, or between the legs.

3.3.19 Hoses must be protected from traffic damage. Hose bridges or other control must be in place, so a vehicle never runs over a hose.

3.3.20 Personnel shall never step on a hose.

3.3.21 No attempt shall be made to adjust any nut, hose connections, fittings, etc., while the system is under pressure. The equipment shall be stopped and any pressure in the line discharged prior to making any adjustments.

3.3.22 Personnel must never tie down, lock, or bypass a fail-safe system. Note: Anyone caught tampering with, locking or otherwise bypassing an abrasive blasting fail safe system will be disciplined up to and including removal from LAR.

3.3.23 When approaching the operator, have your presence acknowledged. Approach only after the tool has been stopped.

3.3.24 Hoses must never be kinked or intentionally damaged or mishandled.

3.3.25 No equipment shall be left unattended while under pressure. The equipment shall be shut down and the equipment depressurized. Never depend entirely on the fail-safe system when lances, hoses, etc., are left unattended.

3.3.26 When the hose drop or rise exceeds ten feet, it shall be securely tied off to a rigid support to limit the strain due to hose weight. Additional tie off locations may be required for longer vertical runs of abrasive blasting hose. Good judgment and experience shall be used to determine how many tie off locations are needed to minimize strain on the abrasive blasting hose.

3.3.27 On long duration jobs, lubricating oil, hydraulic fluid, water, gearbox oil, fuel, and other required lubrication should be checked every shift (not to exceed 12 hours) or more often if recommended by the manufacturer.

3.3.28 Care shall be taken to protect instrumentation, flange faces, nameplates, conduit and other similar equipment from damage due to abrasive blasting.

3.3.29 When abrasive blasting inside equipment, all instrumentation attached to the equipment nozzles shall be protected by either removing the instrumentation or by blinding the instrument nozzles.

3.3.30 After abrasive blasting inside equipment, the equipment and equipment nozzles shall be cleaned inside such that there is no appreciable amount of abrasive left behind that would impact instrument performance.

3.4 Use of Silica Containing Material

3.4.1 Use of silica containing material as a blasting media should be avoided unless it is determined that silica containing material is the only material available to perform the required job.

3.4.2 If silica containing material is used, the abrasive blaster shall assure the following protective measures are in effect:

1. If task is within a Confined Space, the abrasive blaster must wear a Type CE abrasive-blast supplied-air respirator. The supplied air

system must comply with the requirements in HSS-306 (Respiratory Protection Program).
2. All requirements in HSS-405 (Respirable Crystalline Silica Exposure Prevention) must be met.
3. Barricade at least a 10-foot area around work area and tag/post signage as a Silica Regulated Area to limit access.
4. Full containment is required with mechanical ventilation and dust collection.
5. FRC disposable suit is required.
6. Decontamination plan required for entering and exiting area.
7. Set up decontamination area adjacent to work area for donning & doffing PPE. Measures shall be taken to remove accumulated dust on PPE with wet wipes or a vacuum affixed with HEPA filters.
8. For cleanup, dry Sweeping or dry brushing is not allowed unless a variance is approved by the Health Superintendent. HEPA vacuums must be used for vacuuming and housekeeping.
9. Any debris created from activity including disposable PPE shall be placed in an impermeable storage container with appropriate silica hazard labeling at the job site.

3.5 Personal Protective Equipment

3.5.1 Head Protection: All personnel shall wear an approved hard hat. If the task requires a Type CE blast hood, a hard hat is not required.

3.5.2 Eye/Face Protection: For Carbon Dioxide Pellet Blasting in an Open Space, a face shield and safety glasses are required. For all other tasks, the eye/face protection are required to be a full face HEPA respirator or Type CE blast hood (see Respiratory Protection in 3.5.7 below).

3.5.3 Body Protection:
a. Heavy canvas or leather apron and/or legging or heavy protective pants.
b. FR disposable suit over FR clothing.

3.5.4 Hand and Sleeve Protection: Blast operators shall wear Kevlar sleeves with impact resistant gloves.

3.5.5 Foot Protection: All operators shall wear typical safety shoes meeting the requirements of the LAR standing instruction.

3.5.6 Hearing Protection: Double Hearing protection shall be worn by all operators of abrasive blasting equipment. If the task requires a Type CE blast hood, earmuffs are not required.

3.5.7 Respiratory Protection: Type CE Blast Hood with supplied air is required for all abrasive blasting activities.

3.6 Inspection of Equipment

Because of the pressure and the hazards of injuries due to abrasive blasting, all abrasive blasting equipment must be inspected as described below and as required by the LAR Abrasive Blasting Form (Appendix C):

3.6.1 Hose Inspection and Testing:

a) All hoses must be marked with manufacturer's name or symbol, serial number, and Maximum Allowable Working Pressure (MAWP).

b) Hoses, hose ends, and hose couplings must be inspected prior to use. Those with visible metal braiding, obvious kinks, or with damaged ends/fittings must be tagged and taken out of service.

c) Hoses must be leak tested to 1.0x MAWP pressure at minimum every 6 months and tagged with last inspection date. Hoses shall not be used unless current inspection tags are in place.

3.6.2 Nozzle and Tip Inspection:

(a) Check nozzles to be sure it is free from any debris prior to installing nozzle.

(b) Periodic checks should be made to ensure tip is secure during the job.

3.6.3 After pressurization, hoses and equipment shall be inspected for leaks, bulges, etc. before use.

3.7 Special Considerations

3.7.1 All electrical equipment that may be impacted by the abrasive blasting (including overspray) must be covered or de-energized or otherwise protected. All 110 volt electrical equipment required to support the abrasive blasting operation must be properly grounded and protected with a ground fault circuit interrupter to prevent the possibility of electrocution.

3.7.2 Abrasive blasting can be an ignition source. Never use abrasive blasting in atmospheres or areas where flammable or combustible materials are above 0% LEL.

3.7.3 Variances from the requirements of this Standing Instruction are only acceptable after all other measures have been exhausted and require approval per HSS-004.

4.0 Tank Safety

4.1 Tank Safety Requirements

4.1.1 For tanks with vapor recovery, the requirement to periodically monitor the pressure shall be documented on the safe work permit.

4.1.2 Document verification from the Inspection Department that the tank roof is of sufficient structural integrity to support the weight of equipment and personnel and that all surfaces to be abrasive blasted have adequate thickness. This must be documented and available on the jobsite.

4.1.3 It is important to ensure the tank is properly isolated according to guidelines in HSS-008 - Control of Hazardous Energy and this Standing Instruction.

4.1.4 If the tank is in service, the requirements in API RP 2027 must be followed to perform the task.

4.1.5 If the tank is in service, the requirements in F/S 660 Entry on Top of Tanks in Service must be reviewed prior to starting any work.

4.1.6 While personnel are working on the roof and tank shell, the tank must be maintained inactive and isolated in accordance with HSS-008.

4.1.7 On-pontoon type floating roofs, the pontoons shall be checked with an atmospheric monitor prior to the start of any work on the floating roof. If an explosive or combustible mixture is found, the pontoons must be gas freed before any work is performed on the tank deck. If the pontoon cannot be gas freed, no work shall be allowed on the floating roof.

4.1.8 No abrasive blasting or air power cleaning shall be done on any floating roof tank if the rim seals are leaking. To ensure there is no leakage, the rim seals shall be gas tested by the Owning Department/ Permit Writer prior to the start of work.

4.1.9 Accumulation of abrasive material on the tank roof is not allowed.

4.1.10 When the job is complete, a final job walk shall take place to ensure all seals on vents and breathers have been removed prior to returning the tank to active service.

4.1.11 After abrasive blasting inside tanks, the tank and tank nozzles shall be cleaned inside such that there is no appreciable amount of abrasive left behind that would impact product quality.

4.2 Machine

4.2.1 The abrasive blasting machine should be located at grade, unless the roof's inspection records indicate that the roof is safe for the machine to be on the roof. The weight of abrasive blasting equipment shall be provided to the Inspection Department, with support from Engineering, shall verify the integrity of the roof and the ability of the roof to support equipment and personnel. Compressors associated with the blasting equipment should be in locations approved by the Owning Department.

4.2.2 The blasting nozzle must be bonded to the work surface or be otherwise effectively grounded. The blasting machine and hose couplings should be grounded at grade level. If possible, a blasting hose with full circular, wire mesh or a hose made of conductive rubber should be used. Such a hose should have the shield bonded to the couplings. If equipment is bonded directly to the tank, the tank grounding strap shall be determined to be intact.

4.3 Bonding and Grounding

4.3.1 Bonding and grounding is to be properly installed by the contractor and verified by the Owning Department/Permit Writer prior to issuing the Safe Work Permit.

4.4 Scaffolding

4.4.1 If metallic scaffolding is used, it must be electrically bonded to the tank.

4.5 Change in Tank Status

4.5.1 Any need to change the tank status must first be communicated by the Owning Department/Permit Writer to the Servicing Group working on a tank.

5.0 Training

Personnel conducting abrasive blasting operations must be trained both on the abrasive blasting equipment and the operation that they will be performing. The following are the minimum training requirements for personnel conducting abrasive blasting at LAR:

5.0.1 Abrasive blasting personnel must have documented training in the use of abrasive blasting equipment.

5.0.2 Contractors shall maintain, and provide upon request, documentation of abrasive blasting training as described above.

6.0 Emergency Medical Treatment

Potential injuries from abrasive blasting include, but are not limited to, puncture wounds, surface and deep body lacerations, and severe infection from blasting media being injected into the body.

The full extent of injuries from abrasive blasting accidents may not be apparent to the injured employee or to medical personnel. Blast media may be injected deeply into the body through relatively small surface cuts or puncture wounds. Internal organs may be damaged and/or severe internal infections may develop.

In the unlikely event of a person contacting the discharge from an abrasive blasting nozzle, the person should be immediately transported to the nearest emergency medical treatment center. Medical treatment will depend on the injury. Medical personnel should be aware of the possibility of deep body lacerations and injection of foreign material. Provide medical personnel with the statement in Appendix D.

Appendix A: Terms and Definitions

A.1 Abrasive Blasting	Removing surface coatings, rust and residues from metal using compressed air or pressurized water to apply abrasive particles against the surface.
A.2 Abrasive Grit or Media	The abrasive particles used to remove surface coatings.
A.3 Automatic Safety Shutdown System	A spring-loaded valve or switch activated by hand or foot to start the flow of abrasive grit or water to the nozzle. When the hand or foot is removed from the device, the pressurized discharge from the nozzle must stop or be diverted to a non-hazardous discharge location. (also known as dead-man trigger)
A.4 Bonding	Joining of metal parts to provide an electrically conductive path with low resistance and capable of conducting the current that might be generated by abrasive blasting.
A.5 Type CE Respiratory Protection	Type CE respiratory protection consists of NIOSH-approved Type CE (continuous flow) supplied-air hoods which cover the head, neck, and shoulders.
A.6 Dry Abrasive Blasting	Blasting using compressed air to propel dry abrasive grit.
A.7 Silica Containing Material	Material that contains greater than 1% crystalline (free) silica.
A.8 Wet Abrasive Blasting	Blasting using wet abrasive grit propelled by either pressurized air or water. Wet abrasive blasting can be used to reduce the amount of airborne dust generated by abrasive blasting.
A.9 Whip Lock (Check)	A short length of wire or cable, secured to each end of two hoses that are connected with a coupling, designed to limit the movement of hoses in the event of a coupling failure.

Appendix B: Abrasive Blasting on Live Equipment Approval and Mitigation Form

B.1 Form

The following is page 1 of the LAR Abrasive Blasting on Live Equipment Approval and Mitigation Form, A04.

Marathon Petroleum Company LP

Abrasive Blasting on Live Equipment Approval and Mitigation Form - Permitted Task List ID#: A04

Page 1 - Planning Phase Form - To Be Completed by the Owning Department for Abrasive Blasting on Live Equipment.

A. Work Scope Information			
Affected Unit(s):		**Originator:**	
Process Equipment Name/Tag Number:		**Planned Date of Work:**	
Description of work (including why the equipment cannot be isolated):			

All prerequisite questions must be answered.	**YES**	**NO**	**N/A**	**Name/Signature/Date**
B. Evaluation – By Owning Department Supervision (all answers must be YES or N/A to proceed with work)				
Has a Variance been approved?	☐	☐	☐	
If an Operations Contingency Plan is required, has it been prepared and reviewed?	☐	☐	☐	
Has the Table on the next page, based on the expected hazards, been completed by the Servicing Group Representative, and been submitted for review to approving parties?	☐	☐	☐	

C. Required Approvals – all indicated persons must sign	**Signatures**
Area Team Leader	
Inspector	
HES Professional	
Area Team Engineer	

Appendix C: Abrasive Blasting Form

C.1 Form The following is page 1 of the LAR Abrasive Blasting Form, A02.

Marathon Petroleum Company LP

Abrasive Blasting - Form -
Permitted Task List ID#: A02

PERMIT #: _____

This checklist CANNOT be used for abrasive blasting on live equipment.

Work Location: _____ **Date:** _____

Equipment Being Blasted: _____

Abrasive Blasting Supervisor Confirming Form Completed (Print Name/Sign):

_____

Pre-Job Checklist (all applicable questions must be answered to proceed with work) This section must be completed by the Servicing Group Representative immediately prior to starting work. If a question cannot be answered "YES" or "N/A", work CANNOT proceed. **All questions must be answered.**	YES (SHIFT 1)	YES (SHIFT 2)	N/A	**Comments**
Has equipment been positively isolated from hazardous energy, depressured, deinventoried, gas-free, and vented.	☐	☐	☐	
Is the work area barricaded off and have proper warning signs been posted?	☐	☐	☐	
Has the lead content of material to be removed been determined? If necessary, have notifications been made?	☐	☐	☐	
Is the abrasive blast media to be used CARB certified?	☐	☐	☐	
Has proper containment been set up to contain media and dust?	☐	☐	☐	
Do all nozzles have an automatic shut-off or dead-man control in good operating condition?	☐	☐	☐	
Type CE Abrasive Blasting hood with supplied air must be used.	☐	☐	☐	
Are non-interchangeable hose fittings used that will help ensure operators receive only Grade D breathing air for blasting hoods?	☐	☐	☐	
Do all personnel have the proper PPE for the job, including standard PPE required for any type of work in the area? FRC disposable suit (Tyvek, Dupont, etc.) required.	☐	☐	☐	
Is double hearing protection available?	☐	☐	☐	
Is the air delivered by the breathing air compressor checked on a frequency recommended by the compressor manufacturer to ensure Grade D breathing air quality?	☐	☐	☐	
Are purification filters installed for air supplied by the compressor?	☐	☐	☐	
Does the breathing air compressor have the volume and pressure capacity to supply the recommended amount of air to each blaster's hood?	☐	☐	☐	
Are engine exhausts and other sources of airborne contaminants in blasting area located or directed away from compressor and air mover air intakes?	☐	☐	☐	
Are communication signals established?	☐	☐	☐	

Appendix D: Abrasive Blasting Injury Note

"This person has been involved with equipment propelling abrasive grit with compressed air at pressures that can exceed 100 pounds per square inch. Such abrasive blast streams can rapidly remove several layers of dry paint from metallic surfaces.

PLEASE CONSIDER THIS INFORMATION WHEN MAKING A DIAGNOSIS: In spite of seemingly minor skin abrasions or lacerations, severe internal injuries and/or infections are not uncommon with injection of abrasive grit and paint particles into body tissue underneath injured skin surface areas.

Unusual infections have also been reported due to injection of organisms along with blast media. These organisms may be Gram-negative pathogens such as those found in sewage. Bacterial swabs and blood cultures may therefore be helpful."

Revision History

Document Revision History

Complete the following table for each document revision.

Rev. No.	Description of Change	Author	Approved By	Rev. Date	Effective Date
0	First issue of document	Alek Hamparian	Mike Kulakowski	09/09/20	09/09/20
1	Changed silica barricade area from 15-ft to 10-ft.	Alek Hamparian	Mike Kulakowski	09/30/20	09/30/20
2	Added clarification on protection of equipment from abrasive blasting.	Alek Hamparian	Connie Lema	08/12/22	08/12/22