

Doc Custodian: Process Safety	Galveston Bay Refinery	Doc No.: RGD-PS-000011-GB Rev No: 0
Approved By: Signature Page		Buildings and Tent Siting Plan
Date Approved: 8 Oct 2019	Next Review Date 8 Oct 2024	Effective Date: 8 Oct 2019

Overview

Purpose

The purpose of this policy is to outline the requirements to ensure compliance with the most current revision of RSP-1314 PSM/RMP Building and Tent Siting by establishing a procedure at Galveston Bay Refinery (GBR) to:

- Manage Building and Tent Changes on property that GBR owns or leases (RSP-1314 Section 2.3)
- Create Identification and Signage for Building/Tent (RSP-1314 Section 4.8)
- Permit Occupied Buildings/Tents (RSP-1314 Section 4.6-7)
- Communicate Facility Siting Hazards to Occupants of Buildings/Tents (RSP-1314 Section 4.9)

The document also includes:

- Shelter-In-Place Requirements
- Tent Installation Recommendations and Requirements
- Auditing Requirements outside of the Tier I process

For all other requirement for Facility Siting at GBR see RSP-1314 .

Scope

This standard practice applies to all permanent and portable buildings, and tents, either new or existing that are on Marathon Petroleum Company LP (MPC) Refining property. Portable buildings on refinery property owned by third parties are also covered by this standard practice. Permanent buildings on MPC Refining property owned by a third party do not have to meet this standard practice, but must meet requirements of API RP 752, 753 and 756.

Guiding Principles

The following are guiding principles used within this document:

- a) Locate personnel away from process areas consistent with safe and effective operations.
- b) Minimize the use of occupied buildings and tents in close proximity to process areas.
- c) Manage the occupancy of buildings and tents in close proximity to process areas, especially during periods of increased risk such as during start-ups and shutdowns.
- d) Design, construct, install, modify, and maintain occupied buildings to protect occupants against potential hazards.
- e) Manage the use of occupied buildings and tents as an integral part of the design, construction, maintenance, and operation of a facility.
- f) Avoid the congregation of large numbers of employees in hazardous areas, consistent with safe and effective operations.

Buildings and Tent Siting Standard Practice by Refinery

This Buildings and Tent Siting plan is developed for GBR to specifically address and further define as necessary how this site will comply with RSP-1314. This document will follow the general outline provided in RSP-1314. Only sections with clarifications or additions are included in this document.

Galveston Bay Refinery	Refinery Department Procedure	
Title: Buildings and Tent Siting Plan	Doc Number: RGD-PS-000011-GB	Rev No: 0

Records Retention Printed copies of this document should not be retained more than 12 months. Any revision to this document will be retained following the revision.

Supersedes This document supersedes GBR-HESS-PS3.6, Rev. 1.

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Table of Contents

- Overview 1**
 - Purpose 1*
 - Scope..... 1*
 - Guiding Principles..... 1*
 - Buildings and Tent Siting Standard Practice by Refinery 1*
 - Records Retention 2*
 - Supersedes 2*
- Table of Contents 3**
- 1.0 References 5**
 - 1.1 Refining References..... 5*
 - 1.2 Industry References..... 5*
 - 1.3 GBR Specific Forms and Procedures 5*
 - 1.4 Definitions 5*
- 2.0 Roles & Responsibilities 5**
- 3.0 Management of Change of Buildings/Tents 5**
 - 3.1 Examples of Changes 5*
 - 3.2 Regular MOC and PMOC..... 6*
- 4.0 Occupied Building Permits and Information..... 7**
 - 4.1 Requirements 7*
 - 4.2 Revalidation Requirements 7*
- 5.0 Shelter-in-Place/Safe Haven 7**
 - 5.1 Requirements 7*
 - 5.2 Shelter-In-Place Requirements 7*
 - 5.3 Air Exchange Rate Testing 8*
- 6.0 Tent Installation..... 9**
 - 6.1 Cool-Down Tent Requirements 9*
 - 6.2 Permitting and Print Tent Requirements 9*
- 7.0 Auditing 9**
- Appendix A: Occupied Building/Tent Permit Form..... 10**
- Appendix B: PMOC Form Temporary Building and Tool Trailers/Tents 12**
- Appendix C: PMOC Form Reclassify from Occupied to Unoccupied Building..... 12**
- Appendix D: Unoccupied Building Sign..... 12**
- Appendix E: Facility Siting Approval Sign..... 13**
- Appendix F: Building Number Sign..... 14**

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Galveston Bay Refinery	Refinery Department Procedure	
Title: Buildings and Tent Siting Plan	Doc Number: RGD-PS-000011-GB	Rev No: 0

ApprovalsError! Bookmark not defined.

Revision History..... **15**

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1.0 References

1.1 Refining References

See RSP-1314 Building and Tent Siting

1.2 Industry References

See RSP-1314 Building and Tent Siting

1.3 GBR Specific Forms and Procedures

Number	Description
ERP-02	Emergency Response Plan
PS-014504-GB	PMOC Form for Reclassifying from Occupied to Unoccupied
PS-014505-GB	PMOC Temp Building and Tool Trailers/Tents

1.4 Definitions

See RSP-1314 Appendix A: Terms and Definitions

2.0 Roles & Responsibilities

Roles and responsibilities are outlined in RSP-1314 Section 9.1.

3.0 Management of Change of Buildings/Tents

Managing Change is outlined in RSP-1314 Section 2.3. Buildings requiring siting evaluation are outlined in Section 3.0.

3.1 Examples of Changes

All projects involving additions of new process equipment should be reviewed with the Building Siting Coordinator to ensure that there are no changes in volumes or locations of volumes, process conditions, or potential release locations.

Changing the occupancy status of an existing building, such as from occupied to un-occupied.

New Building/Tent Siting Studies conducted in conjunction with a change are required to be stored as an addition to the current 5-year study.

3.2 Regular MOC and PMOC

Application

Applies to the following types of buildings:

- Permanent Occupied or Unoccupied Buildings
- Permanent or Temporary Occupied Tents
- Portable Buildings, Temporary Portable Buildings and Conex container
- New building construction

Initiation – Evaluation

#	Who	Action
1	Requestor	Contact the Building/Tent Siting Coordinator to review proposed Building/Tent location and occupancy status prior to the entering it into the electronic system
2	Requestor	Select the Category of Change <ul style="list-style-type: none"> • Regular MOC - New building construction or an “Area of Low Risk” • PMOC - When applicable
3	Requestor	Enters the MOC into the Electronic System: <ul style="list-style-type: none"> • Regular MOC <ul style="list-style-type: none"> ○ Follow standard process set by <u>RSP-1307</u> • PMOC <ul style="list-style-type: none"> ○ Follow PMOC process

Prestart-up Actions for Full MOCs

#	Who	Action
1	Building/Tent Coordinator	Assign building number and record in the GBR Building Register. Unoccupied buildings are assigned building numbers starting with UB and occupied buildings start with OB. Buildings onsite for less than 6 months will not be assigned a building number. <ul style="list-style-type: none"> • Prepare first draft of the building permit if the building is occupied.
2	Requestor	Complete any mitigations required by the evaluation phase. Request building identification (ID) and order signage per specifications <ul style="list-style-type: none"> • The building number will be displayed on or next to the main entrance door of the building. • If a building/Tent is unoccupied, then “Not for Occupancy Sign” is required on each point of Entry • All buildings will be shown on a redlined GBR Site Plot Plan.

Post Startup Actions for Full MOCs

#	Who	Action
1	Building/Tent Coordinator	Add Post Startup for the Building Coordinator to: <ul style="list-style-type: none"> • Upload the final Building Permit to electronic storage.

Galveston Bay Refinery	Refinery Department Procedure	
Title: Buildings and Tent Siting Plan	Doc Number: RGD-PS-000011-GB	Rev No: 0

4.0 Occupied Building Permits and Information

4.1 Requirements

All occupied buildings are required to have a completed building permit and be listed in the GBR Building Register.

- The original building permit will be stored by the Process Safety Group and an electronic copy is available through ePSI.
 - Unoccupied buildings are assigned building numbers starting with UB and occupied buildings start with OB.
 - Buildings onsite for less than 6 months require an MOC but will not be assigned a building number.
 - Access to the GBR Building Register is restricted due to Department of Homeland Security requirements. Contact the Building and Tent Coordinator if access is required.
-

4.2 Revalidation Requirements

Building Permit must be revalidated at least every five years in conjunction with Building Siting Study or when an MOC is initiated. If a new building is installed between the renewal periods, the permit will be revalidated during the next site revalidation.

5.0 Shelter-in-Place/Safe Haven

5.1 Requirements

While the preferred response by building occupants to a release is to evacuate cross-wind and up-wind to a safe location, GBR recognizes that for some scenarios this may be difficult. Several buildings on-site have been designated as Shelter-in-Place. A list of the buildings and requirements for Shelter-in-Place are documented in EPR-2 Appendix B.

Currently the only Safe Havens at GBR are the CCB's at East/West Plant and Bay Plant.

5.2 Shelter-In-Place Requirements

Shelter-in-Place is the use of a building, vehicle or other enclosed space to provide protection against exposure to a toxic gas or vapor. Where on-site buildings are used for Shelter-in-Place, the site emergency response plan shall include written Shelter-in-Place procedures. The written procedures shall include the following:

- Criteria and signals for entering and leaving temporary shelters.
- Building identification of preferred Shelter-in-Place locations in the Emergency Response Plan.
- Steps to secure shelter spaces against toxic intrusion, such as rapid HVAC shutdown (without exiting the building) and sealing of doors and windows.
- A listing of equipment to be maintained at each location, including communications equipment (radio or telephone), and materials for securing the shelter.
- Evacuation Sites marked, and all building occupants trained in the evacuation sites and the routes to those sites.
- Site-wide alarms - communicate to all that a call to Shelter-In-Place or evacuate has been made.

Galveston Bay Refinery	Refinery Department Procedure	
Title: Buildings and Tent Siting Plan	Doc Number: RGD-PS-000011-GB	Rev No: 0

- An Emergency Response Plan which includes release mitigation measures, Shelter-in-Place procedures, evacuation procedures, accountability procedures, emergency notification procedures, and incident response procedures.
- Shelter-in-Place procedures shall be functionally practiced (drilled) once every three years

Additional building requirements:

- The HVAC system shall have one or more single button shutdown(s) in a location(s) easily accessible without exiting the building.
- HVAC dampers between the interior and exterior of the building need to be of a design that will prevent infiltration of outside air when the HVAC system has been shut down.
- A process for periodically checking each temporary shelter location to ensure the equipment is being properly maintained
- Employing a mechanical integrity program which includes equipment inspection procedures, maintenance procedures, and preventative maintenance procedures.
- Toxic gas detection/alarm/shutdowns: When an occupied building is to be located within 330 feet of a source of a gas of concern (HF, NH₃, H₂S), detectors for that gas are required on the air intake(s) which alarm (local and remote) and shutdown the air handling system at the PEL and STEL concentrations.
- Availability of personal protective equipment where applicable (within 330 feet of potential toxic release).

5.3 Air Exchange Rate Testing Requirements

In determining the vulnerability of the designated Shelter-in-Place buildings an Air Exchange Rate (AXR) Test may be conducted. The testing will determine the Air Infiltration of the building with the Shelter-in-Place mode activated. There are multiple modes of testing that can be performed, including Tracer Gas testing or Blower Door testing. The test determines the air exchange rate, in terms of air changes per hour for the specific time and environmental conditions under which the test is done.

Once the AXR has been measured, the results can be used to model the Occupant Vulnerability based on the maximum toxic concentration, expected release duration, time to shutdown HVAC system, and time that people remain in the building after the release ends. This data can then be used to determine the viability of making a permanent building a Shelter-in-Place.

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Galveston Bay Refinery	Refinery Department Procedure	
Title: Buildings and Tent Siting Plan	Doc Number: RGD-PS-000011-GB	Rev No: 0

6.0 Tent Installation

Tents intended for occupancy require siting evaluations. There are certain cases where tent applications that require occupancy to support key temporary work activities are exempt. Structures with roofs and no walls, whose primary function it to provide limited protection to personnel are excluded if they meet the requirements of the RSP.

See various sections of RSP-1314 for tent location and installation requirements.

6.1 Cool-Down Tent Requirements

Cool-down tents are to be used only for intermittent access and are excluded from the MOC and other requirements of this policy. A Joint Job Site Hazard analysis still shall be completed, and other required permits obtained per site requirements. Additional requirements for cool-down tents shall meet the criteria below:

- Tents ≤ 150 sq. ft
- No sides below 2 ft from the top of tent.
- Must be located ≥ 330 ft from a live flare.
- Must be located ≥ 100 ft outside the unit ISBL.

6.2 Permitting and Print Tent Requirements

Small tents used for permitting and print/drawing review are considered unoccupied and are excluded from the MOC and other requirements of this policy. A Joint Job Site Hazard analysis shall be completed, and other required permits obtained per site requirements. Additional requirements for permitting tents in potentially hazardous areas shall meet the criteria below:

- Only essential personnel are allowed.
- Tents ≤ 24 sq. ft.
- No sides below 2 ft from the top of tent.

7.0 Auditing

See RSP-1314 Sections 3.3.3 and 8.4.(f)(4) for audit requirements.

Appendix A: Occupied Building/Tent Permit Form

Appendix A: Building Permit

OCCUPIED BUILDING PERMIT			
Building Number and Name:		MOC #:	
Company or Contractor Name:		Date:	
1) INFORMATION SECTION			
Intended Use: <input type="checkbox"/> Office <input type="checkbox"/> Break/Lunch <input type="checkbox"/> Control <input type="checkbox"/> Occupied Tool/Storage <input type="checkbox"/> Workshop <input type="checkbox"/> Other:			
Building Type: <input type="checkbox"/> Wood Frame <input type="checkbox"/> Metal Frame <input type="checkbox"/> Reinforced Masonry <input type="checkbox"/> Blast Resistant <input type="checkbox"/> Canopy <input type="checkbox"/> Other			
Occupancy dates requested:	Permanent: <input type="checkbox"/>	Temporary: In: Out:	TPB? <input type="checkbox"/> Yes <input type="checkbox"/> No
Building Occupants Description:	Essential: <input type="checkbox"/>	Non-essential: <input type="checkbox"/>	Safe Haven <input type="checkbox"/> Yes <input type="checkbox"/> No
Normal Occupancy: Number:	Duration:	Toxic Only Shelter-In-Place <input type="checkbox"/> Yes <input type="checkbox"/> No	
Location Description:	Plot Plan Grid Coordinates:		
The above information is correct and will be followed accordingly. If the building occupancy status changes [from unoccupied to occupied] or if the building type or location changes, the Owner/Requestor must notify the PSM Building Site Coordinator immediately. The building may have to be locked and/or the MOC process reviewed. The original permit will be sent to the PSM Building Site Coordinator.			
Owner/Requestor:	Signature:		
2) BUILDING SITING HAZARD REVIEW SECTION – REFER TO RSP-1314 FOR ADDITIONAL INFORMATION			
Building highest VCE: psi / millisecond	If VCE ≥ 0.9 psi, will building occupants include non-essential personnel?		
If within 5 psi overpressure contour, VP Refining approval required	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
If within 3 psi overpressure contour Div Manager approval required.	If YES VP Refining approval and signature is required below.		
Building Blast Rating: psi / millisecond	Blast Design Certification Attached: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Building Damage Level (BDL):	Source of BDL determination;		
Window treatment required: <input type="checkbox"/> Yes <input type="checkbox"/> No	List Treatment Specifics:		
Toxic Vulnerability >0.1%? <input type="checkbox"/> Yes <input type="checkbox"/> No	Building Toxic Response: <input type="checkbox"/> Safe Haven <input type="checkbox"/> SIP <input type="checkbox"/> Evacuate		
Toxic > ERPG-3? <input type="checkbox"/> Yes <input type="checkbox"/> No	Meet Toxic requirements of RSP-1314? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Radiant Dose >927 s(kW/m²)^{4/3} <input type="checkbox"/> Yes <input type="checkbox"/> No	Building Fire Response: <input type="checkbox"/> Safe Haven <input type="checkbox"/> Evacuate		
Radiant Load >12.6 kW/m² <input type="checkbox"/> Yes <input type="checkbox"/> No	Meet Fire requirements of RSP-1314? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Two or More Fire Escape Routes?: <input type="checkbox"/> Yes <input type="checkbox"/> No	Located in Carryover or Radiant Heat Flare circle: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Electrical Area Classification:	Building meets Area Electrical Requirements:	<input type="checkbox"/> Yes <input type="checkbox"/> No	If No, building must not be energized
Building Pressurized: <input type="checkbox"/> Yes <input type="checkbox"/> No			
The following <i>other</i> hazards have been reviewed and no gaps were identified			
<input type="checkbox"/> Power Lines <input type="checkbox"/> Traffic (vehicle/rail/foot) <input type="checkbox"/> Heavy Lift Locations <input type="checkbox"/> Sewer vents <input type="checkbox"/> Atm. Vents/Reliefs <input type="checkbox"/> Vehicle Exhaust <input type="checkbox"/> Nitrogen plants/storage <input type="checkbox"/> Offsite issues <input type="checkbox"/> Other (list)			
Risk Ranking (occupied only):	Mitigation Plan complete?: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Building Checklist Completed: <input type="checkbox"/> Yes <input type="checkbox"/> No (see reverse side of this permit)			
3) APPROVAL SECTION (All signatures required except as noted below)			
	Name	Signature	Date
Electric Reliability Engineer:			
Safety Rep Fire Chief:			
PSM Building Site Coordinator			
ES&S Manager			
Maintenance Manager			
Engineering Manager (if Reqd)			
Engineering Manager signature required for new or significantly modified buildings			
Division Manager (if Reqd)			
Division Manager Approval and Signature is required for all Wood Frame Trailer Permits Division Manager Approval and Signature is required for continued occupation of buildings not meeting the VCE, Fire, or Toxic requirements of RSP-1314, or for new occupied buildings ≥3 psi overpressure area.			
VP Refining (if Reqd)			

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Galveston Bay Refinery	Refinery Department Procedure	
Title: Buildings and Tent Siting Plan	Doc Number: RGD-PS-000011-GB	Rev No: 0

Appendix A: Building Permit

OCCUPIED BUILDING PERMIT			
Building Number and Name:		MOC #:	
Company or Contractor Name:		Date:	
<i>VP Refining Approval and signature required for Occupied Building ≥5 psi or Non-essential personnel in occupied buildings ≥ 0.9 psi</i>			
Building Permit Checklist – (Occupied Buildings Only)			
All Building Requirements	Yes	N/A	Comment
Large office equipment and heavy stacks of material inside the building near exterior walls are adequately secured to prevent them from tipping and falling on someone?	<input type="checkbox"/>	<input type="checkbox"/>	
The lighting fixtures, ceiling or wall-mounted equipment are well supported so they will not fall on someone causing injury?	<input type="checkbox"/>	<input type="checkbox"/>	
Have all exterior windows been treated or covered to prevent injury from flying glass if a VCE occurs?	<input type="checkbox"/>	<input type="checkbox"/>	
Is the building positioned so that occupants may evacuate out doors that open away from the any potential radiant heat source?	<input type="checkbox"/>	<input type="checkbox"/>	
Is a fire extinguisher available and properly installed?	<input type="checkbox"/>	<input type="checkbox"/>	
Can building occupants hear the emergency siren?	<input type="checkbox"/>	<input type="checkbox"/>	
If the building is to be occupied after dark, is exterior lighting adequate? (Note: Mark N/A if building is only used during daylight hours.)	<input type="checkbox"/>	<input type="checkbox"/>	
Stairs and hand railing or other means of entrance/egress to the building are safe and compliant with OSHA regulations?	<input type="checkbox"/>	<input type="checkbox"/>	
Are wind socks visible from the windows and/or doors of the building?	<input type="checkbox"/>	<input type="checkbox"/>	
If located within a 0.9 psi VCE zone, will the building be occupied by only essential personnel?	<input type="checkbox"/>	<input type="checkbox"/>	
Are evacuation procedures and assembly area maps displayed so they are visible to all building occupants?	<input type="checkbox"/>	<input type="checkbox"/>	
Is there exterior and interior fire suppression equipment available?	<input type="checkbox"/>	<input type="checkbox"/>	
Any sewer connection to the building has been properly installed and sealed to prevent ingress of vapors? (Note: Mark the N/A box if there is not a sewer connection.)	<input type="checkbox"/>	<input type="checkbox"/>	
Is the fresh air intake properly located?	<input type="checkbox"/>	<input type="checkbox"/>	
Is the building pressurized? Can the ventilation system be shutdown to prevent the ingress of outside air?	<input type="checkbox"/>	<input type="checkbox"/>	
The refinery plot plan was confirmed to be updated?	<input type="checkbox"/>	<input type="checkbox"/>	
The building number is affixed to the building (building permit with #)	<input type="checkbox"/>	<input type="checkbox"/>	

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Galveston Bay Refinery	Refinery Department Procedure	
Title: Buildings and Tent Siting Plan	Doc Number: RGD-PS-000011-GB	Rev No: 0

Appendix B: PMOC Form Temporary Building and Tool Trailers/Tents

See [PMOC for Building/Tent Changes](#).

Appendix C: PMOC Form Reclassify from Occupied to Unoccupied Building

See [PMOC for Building/Tent Changes](#).

Appendix D: Unoccupied Building Sign

D.1 Building **NOT** Approved for Occupancy Posting

The figure below is a sign that may be used to meet the building signage Requirement. Signs are to be applied to "unoccupied" buildings to signify that employees should only enter the build to complete a required task and not use the building as an office, shelter, or break area.




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Galveston Bay Refinery	Refinery Department Procedure	
Title: Buildings and Tent Siting Plan	Doc Number: RGD-PS-000011-GB	Rev No: 0

Appendix E: Facility Siting Approved Sign

To be applied to all temporary buildings.



FACILITY SITING APPROVED

GALVESTON
BAY
REFINERY

LOCATION:

BLDG. #

MOC # **DATE:**

MOC REQUIRED TO MOVE OR REMOVE BUILDING, CONTAINER OR TENT

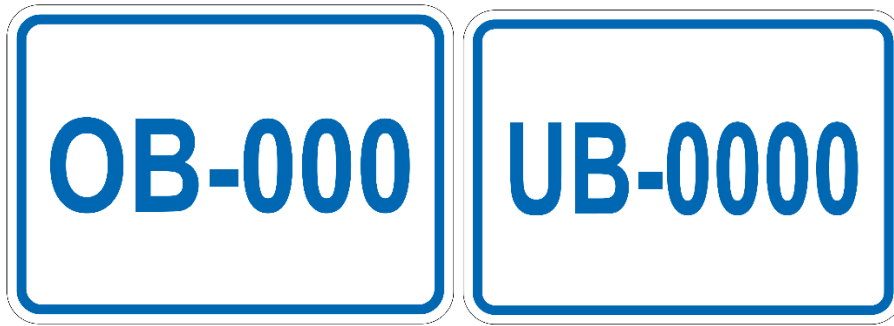
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Galveston Bay Refinery	Refinery Department Procedure	
Title: Buildings and Tent Siting Plan	Doc Number: RGD-PS-000011-GB	Rev No: 0

Appendix F: Building Number Signs

The figures below are signs that may be used to meet the building signage Requirement. Signs are to be applied to occupied or unoccupied buildings that meet the requirements of RSP-1314.

Examples of Occupied and Unoccupied Signs. 10" x 14".



Signs can be ordered through T-N-T Signs & Graphics.

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Approvals



 Engineering Manager

9/26/19

 Date



 ES&S Manager

9-25-19

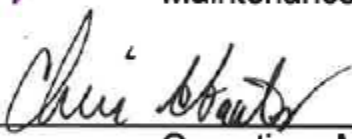
 Date



 Maintenance Manager

9/30/19

 Date



 Operations Manager

9-25-19

 Date



 Products Control Manager

9/25/19

 Date



 General Manager

10/8/19

 Date

Revision History

Document Complete the following table for each document revision.

Revision History

Rev #	Description of Change	Revised By	Approved By	Revision Date	Effective Date
0	Original issue. Combined site policy integration. Streamlined to point to RSP-1314 current revision. Added requirements for Shelter-In-Place and Tents.	R. Allison	V. Meek	10/11/2019	10/11/2024