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1.0 INTRODUCTION

1.1 Purpose

The purpose of this procedure is to provide guidance in siting buildings and tents around hazards within the refinery property line to reduce potential risk of injury to building occupants. Specifically, this procedure guides employees at the Anacortes Refinery to ensure compliance with Refining RSP-1314 PSM/RMP Building and Tent Siting.

1.2 Scope

The Anacortes Refinery recognizes RSP-1314 PSM/RMP Building and Tent Siting as the base document for local Facility Siting Program. This procedure applies to all permanent and portable buildings, and tents, either new or existing that are on Marathon Petroleum Company (MPC) Anacortes Refinery property. Portable buildings and tents on refinery property owned by third parties are also covered by this procedure. Permanent buildings on MPC property owned by a third party do not have to meet this procedure but must meet requirements of API RP 752.

1.3 Guiding Principles

The following are guiding principles used with this document:

- Locate personnel away from process areas consistent with safe and effective operations.
- Minimize the use of occupied buildings and tents in close proximity to process areas.
- 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.
- Design, construct, install, modify, and maintain occupied buildings to protect occupants against potential hazards.
- Manage the use of occupied buildings and tents as an integral part of the design, construction, maintenance, and operation of a facility.
- Avoid the congregation of large numbers of employees in hazardous areas, consistent with safe and effective operations.

2.0 REFERENCES

2.1 Marathon Standards, Policies & Procedures

- GEN-1010, Risk Calibration Standard
- RSP-1314, PSM/RMP Building and Tent Siting
- RSP-1302, PSM/RMP Process Safety Information
- RSP-1308, PSM/RMP Mechanical Integrity
- RSP-1312, PSM/RMP Compliance Audits
- SP-50-01.5, Spacing & Layout of Equipment Guidelines for New Units
- R-12-001 (PS-01), Process Safety Management (PSM) Overview

2.2 Industry Standards

- API RP-752, Management of Hazards Associated with Location of Process Plant Buildings
- API RP-753, Management of Hazards Associated with Location of Process Plant Portable Buildings
- API RP-756, Management of Hazards Associated with Location of Process Plant Tents
- Guidelines for Facility Siting & Layout, CCPS: 2003; ISBN#0-8169-0899-0 Definitions

3.0 DEFINITIONS

The following definitions are applicable to this procedure.

Table 1 Acronyms

Term	Description
API RP 753 Zone 1	The API Recommended Practice for the Management of Hazards Associated with Location of Process Plant Portable Buildings, API RP 753, establishes three zones regarding the location of portable buildings. API RP 753 Zone 1 represents an exclusion zone where occupied light wood trailers and non-essential employees in any portable building, are not allowed. Zone 1 is generally set by the further of; 330 feet from the process or the 0.9 psi VCE contour. See API RP 753 for a detailed definition. The Zone 1 contour can be found in the MPC building siting study reports.
Blast Zone	A Blast Zone is an area exposed to a pressure wave generated by a vapor cloud explosion (VCE).
Blast Zone Plot Plan	Blast Zone Plot Plan is a drawing (paper or electronic copy) showing siting study VCE sources and the associated circle defined by the distance from the VCE source to the distance required for the blast pressure to decay to certain selected pressures
Building	A Building is a rigid enclosed structure intended for bodily entrance by employees or contractors. **Note**: Sea crates, semi-trailers, etc., used for shipping materials that are only entered for the purpose of loading and unloading the shipped materials are not considered buildings. The same entities used for storage are considered buildings.
Building Blast Pressure Rating	Building Blast Pressure Rating is the blast pressure that a building can withstand subject to selected building damage level. Blast pressure ratings consist of a blast pressure and a blast duration.
Consequence Based Analysis	Consequence Based Analysis is an assessment of potential consequences from hazards associated with a process unit without assigning specific frequencies to the event
Essential Personnel	Essential Personnel (regarding occupancy near hazardous areas) Personnel with specific work activities that require them to be located in buildings/tents in or near a hazardous process area for logistical and response purposes. Reference RSP-1314 Appendix A, definition A.7 for additional details

Table 1 Acronyms

Term	Description
Evidence of Occupancy	Evidence of Occupancy involves the presence of items or activities, that would indicate a building/tent is being used for office, break time, or other activities/tasks that are not required to be conducted in close proximity to process areas. Reference RSP-1314 Appendix A, definition A.8 for additional examples and details for evidence of occupancy.
Intermittently Used Building/Tent	An Intermittently Used Building/Tent is a building or tent where employees are not assigned to occupy the location, but may need to enter the building/tent intermittently to conduct tasks. To be considered an intermittently used building/tent, the building/tent must not be listed in RSP-1314 Section 3.2 and must not exhibit Evidence of Occupancy (RSP-1314 Appendix A.8). Intermittently used buildings/tents are considered unoccupied for building siting purposes.
Maximum Credible Event (MCE)	A Maximum Credible Event (MCE) is a hypothetical explosion, fire, or toxic material release event that has the potential maximum consequence to the occupants of the building/tent under consideration from among the major scenarios evaluated. See RSP-1314 Appendix B for additional information about MCEs.
Mitigation Plan	A Mitigation Plan outlines the actions taken, or to be taken, to reduce or eliminate risk, allowing continued operation. All required actions shall be documented with; a brief description of the action, assigned responsibility for the action, and implementation dates.
Normal Occupancy	Normal Occupancy is the number of occupants that are reasonably expected to be present in a building or tent simultaneously for periods of 30 minutes or greater, on any given day during normal operations. Normal occupancy must include, at a minimum, the number of personnel assigned to building for a given shift or period of time.
Occupied Building/Tent	An Occupied Building/Tent is a building intended to house or office personnel. A building will be considered an Occupied Building if it is listed in Section 5.2 or if the building exhibits Evidence of Occupancy (RSP-1314 Appendix A.8). **Note**: Occupancy is not defined by the presence of personnel alone. Some buildings that require the intermittent presence of personnel are not considered "occupied" for building siting purposes
Operator Building/Tent	Operator Building/Tent is any building where refinery operators (e.g., unit operators, tank farm operators) are expected to: a) take breaks, b) eat meals, c) handle paperwork associated with work permitting activities, d) document unit entry by non-operations personnel, and e) complete on-shift computer assignments (e.g., shift log entries, monitoring unit operations, or completing training CBT's). **Note**: Operator Buildings/Tents are considered Occupied

Table 1 Acronyms

Term	Description
Portable Building	A Portable Building is any rigid structure that can be easily moved (structure not physically connected to a poured or bricked foundation) to another location within the facility, regardless of the length of time it is kept at the site. Examples: wood-framed trailers (single and double-wide), container boxes (sea boxes), semi-trailers, and portable structures designed to be blast resistant.
PSM Covered Facility (or Site or Process)	PSM Covered Facility (or Site or Process) falls under the OSHA PSM Standard 29 CFR-1910.119.
Safe Haven	Safe Havens are spaces where personnel must perform critical control and operation functions during a release and are not expected to evacuate. These are typically control rooms where a board operator's presence could be required to ensure the continued safe operation or safe shutdown of process units. **Note**: Safe Havens are most commonly associated with toxic release, however buildings designated as Safe Havens must also protect occupants from VCE and Fire scenarios
Safe Haven Mode	When a Safe Haven situation has been declared, the Safe Haven building will be placed into Safe Haven Mode. In Safe Haven mode, actions are taken to reduce the amount of infiltration of contaminated external air into the building envelope. These actions include such things as: a) Closing any openings in the building such as doors, windows, or vents, b) Activating the scrubber system, c) Halting routine entry or exit to/from the Safe Haven, d) Shutting down bathroom fans, stove fans, and gas fired furnaces or water heaters, and e) Notification to the EOC of the activation of the Safe Haven, and the number and condition of sheltering people.
Sea Box	A Sea Box is a steel framed and steel sided structure and is normally a cargo container modified for occupancy or unoccupied storage. **Note**: This is also sometimes referred to as a Conex box
Single Occupancy Building	Single Occupancy Buildings are defined as those buildings intended for only brief, periodic, occupancy typically by a single entrant
Temporary Portable Building (TPB)	A **Temporary Portable Building (TPB)** is a portable building generally associated with a Turnaround, shutdown, or other maintenance activity where the portable building is anticipated to be occupied for 90 days or less. For the purposes of this section, TPB refers to a single building unit. **Note**: Where multiple units are attached together or stacked, normal portable building requirements apply

Table 1 Acronyms

Term	Description
Tents	Tents are fabric covered structures, with or without walls, supported by poles, bars, scaffold, ropes, cables, inflatable members, or a combination of these. A fabric is any flexible material used for the covering or enclosure of a tent. Tents can be permanent or temporary. When the word "Tent" is used in this standard, it refers to a Permanent Tent unless otherwise noted. **Temporary Tents** are associated with specific work events or projects, such as unit turnarounds, major maintenance, or revamps. While the various work events have differing durations, the tent will be considered temporary for the duration of the work event or project provided the tent was erected for a specific purpose and will be dismantled at the completion of the purpose. **Permanent Tents** are those erected for housing personnel not associated with a specific work activity, or those which are erected for a specific work activity and remain erected for multiple projects or turnarounds, thereby becoming permanent. Reference RSP-1314 Appendix A Item A.23 for additional information
Unoccupied Building/Tent	An Un-Occupied Building/Tent is a building/tent needed to locate materials or equipment so as to - a) provide protection of that equipment from the elements, or b) protect personnel from the equipment. See RSP-1314 Appendix A for examples.
Vapor Cloud Explosion (VCE)	A Vapor Cloud Explosion (VCE) is an explosion of a flammable vapor cloud. **Important**: VCEs require the presence of a flammable mixture in a congested or confined volume.
Vulnerability	Vulnerability is the proportion of building occupants that could suffer a permanent disability or fatality if a potential event were to occur.
Wood Framed Trailer	A Wood Framed Trailer is a portable building with a wall design consisting of "2X4" (nominal 1.5 in. by 3.5 in.) with a thin outer skin. **Note**: This is generally representative of the weakest constructed portable building used in the processing industries.
Working Tents	A Working Tent is a tent that is required for equipment or work activities that cannot be feasibly performed remotely from the process unit or equipment. Working tents may not be used for breaks and lunch; workers will take breaks and lunch elsewhere. Examples of such work activities in these temporary tents can be found in RSP-1314 Appendix A, Item A.28

4.0 BUILDING SITING STUDY

4.1 Building Siting Study Report

Anacortes has completed a building siting study as required per RSP-1302, the Process Safety Information Refining PSM/RMP Standard and consistent with the requirements of RSP-1314 PSM/RMP Building and Tent Siting.

This study will be revalidated every five years at a minimum.

The building and tent siting study should be kept up to date between the five year revalidations as part of regular management of change processes. Reference RSP-1314 Section 2.3.3 for a minimum list of elements to be updated and incorporated into the facility siting study any time a change is made.

The study will be accessible to refinery personnel and available for use in PHA studies. The most recent facility siting study report can be obtained by contacting the Facility Siting Coordinator or PSM department.

4.2 Managing Change

Adding any type of building (permanent, temporary, portable, trailer, tent, storage), or any change as defined by RSP-1314 Section 2.3 to existing structures represents a change and is subject to Management of Change (MOC) requirements. Adding occupants to unoccupied buildings requires an MOC. All building additions must follow a Management of Change (MOC) except as noted in RSP-1314. In some specific cases, a Proceduralized Management of Change (PMOC) may be used to manage change. All PMOCs used for placement of buildings/tents must be site specific and approved for use per requirements listed in local procedure R-12-006 (PS-06) Management of Change & Pre-Start Up Safety Review.

- Permanent buildings (buildings sited with no intention to remove from site or on permanent foundations) require a MOC to capture equipment maintenance requirements (MI) and other engineering document updates (PSI).
- Portable buildings and tents must be documented by completing a Management of Change (MOC) prior to use to capture updates to the facility building siting database and model. Temporary buildings will need a removal date for the MOC to proceed and date must be 90 days.
- Temporary Buildings and tents are allowed for 90 days or less and the expiration of the temporary MOC shall be 90 days or less.

Any new building (occupied or unoccupied) is required to be identified by the individual responsible for bringing the building or associated contractor onto the premises. New buildings will be reviewed prior to use. Any deficiencies noted during the review must be mitigated before the building is occupied.

Building changes managed by the MOC process include, but are not limited to:

A. Adding a building (portable or permanent).

B. Modifying a building (for example: extensions, additions, or to retrofit for a higher blast rating).

C. Changing the intended use of a building.

D. Changing a building status from un-occupied to occupied, or from occupied to unoccupied.

E. Changing the normal occupancy level of a building.

F. Changing a building status from temporary to permanent.

G. Introducing a new process or new equipment that may create or impact vapor cloud explosion (VCE), fire, toxic release, or BLEVE risks. These evaluations will be managed by the new project's MOC process and when necessary, a consequence analysis shall be performed to analyze the impact of the engineered change.

H. Removal of significant equipment or piping that affects congestion must also be evaluated to identify changes to VCE calculations.

I. Removal of permanent buildings. Temporary buildings are covered by the PMOC process.

J. Relocation of buildings.

K. Changes to any building safety features such as HVAC, fire detection/suppression systems, toxic gas detection systems, fire hydrants or monitors, emergency exits, etc.

A building or tent may be staged, and personnel are allowed to enter to set up or install furnishing, phones, communications, and electrical prior to the MOC being in the "Ready for Start Up" phase, provided the building Owning Department and Process Safety Management (PSM) Group has pre-approved the site location. Safe work permitting rules may apply and if so must be followed during staging. The MOC must be at "Ready to Start-up" before occupancy is permitted.

Up to date building/tent siting information must be available for PHA review teams. This report is critical for proper evaluation of building/tent siting hazards during PHA studies. The information may be electronic or in hard copy.

5.0 BUILDING SITING EVALUATION

5.1 Scope

Buildings and tents are classified by occupancy and fall into three categories, "Intended For Occupancy," "Not Intended For Occupancy," or "Occupied but Exempt." Buildings and tents intended for occupancy require siting evaluations.

Note: Buildings and tents not listed below will be reviewed on a case by case basis to determine what, if any, evaluation is required.

5.2 Intended for Occupancy

"**Intended For Occupancy**" indicates the building or tent is a routinely occupied building or tent and contains evidence of occupancy as defined below. Examples include but are not limited to: Emergency Command Centers/Emergency Operations Centers, Control Rooms, Change Houses, Office and Lunchrooms. A building or tent is considered as occupied not by the presence of personnel alone, but also by building or tent use and activity within the building or tent. The building use is often described in the building name. RSP-1314 Section 3.2 provides a limited list of building or tent types that are considered Intended for Occupancy.

- Evidence of Occupancy is the presence of one or more of the items or activities listed in Appendix A of RSP-1314. Evidence of Occupancy can indicate a building or tent is being used to house or office personnel and will classify a building or tent as occupied. Tier 1 audits are used to periodically inspect buildings or tents for Evidence of Occupancy.
- Using lockers solely for storage of tools required to complete daily task such as raincoats, body harnesses, hand tools, etc., is not Evidence of Occupancy.
- Evidence of Occupancy that cannot reasonably be removed from the process area does not represent occupancy. These items include stand-up desks, chairs or tables

used to facilitate maintenance or operations functions such as calibrating an analyzer, completing loop checks, or testing Distributed Control System (DCS) contact points. These items are typically inside substation buildings, remote instrument enclosures buildings, starter buildings, breaker buildings, and rail or truck loading shacks.

5.3 Not Intended for Occupancy

"Not Intended For Occupancy" indicates the building or tent is not occupied and only used for brief moments. Examples of buildings not intended for occupancy include but are not limited to: Electrical Substations, Sample Sheds, and Analyzer Buildings/Tents. RSP-1314 Section 3.3 provides a limited list of building or tent types that are considered Not Intended for Occupancy. These buildings or tents must be visibly marked on the exterior of the building or tent near each entrance. Buildings or tents Not Intended for Occupancy must be visibly marked using a building sign (see RSP-1314 Appendix I) and must still meet electrical classification requirements.

As required in RSP-1312, buildings/tents not intended for occupancy must be audited through a Tier 1 audit protocol to ensure the building/tent has not become occupied. The presence of Evidence of Occupancy (RSP-1314 Appendix A.8) will be used for the audit criteria.

5.4 Occupied but Exempt

"Occupied but Exempt" are portable and temporary buildings or tents required for key temporary work activities that due to the nature of the work they are facilitating must be located in or near the process. Examples include but are not limited too Mobile environmental monitoring stations, Supplied air trailers, and Non-destructive testing equipment. RSP-1314 Section 3.4 provides a limited list of building or tent types that are considered "Occupied but Exempt". These buildings or tents will have a JJSV checklist completed issued through the Owning Department. This JJSV will be associated with a work permitting process where appropriate. Additional risk mitigation is required for Occupied but Exempt buildings which include maintaining a means of direct communication (radio contact) with the nearest affected operating group. See section 3.4.3 of RSP-1314 for additional risk mitigation requirements.

Vehicles, trailers, or other facilities responding to an emergency are exempt, will be managed according to the site's emergency response plan, and may not require the risk mitigation shown above.

5.5 Buildings/Tents Excluded from Study

Some structures are not covered and are excluded from the study, MOC and permitting requirements. To be excluded from the study, there must be no evidence of occupancy. If Evidence of Occupancy (RSP-1314 Appendix A.8) exists, then these structures will be treated as occupied buildings/tents These include:

- Bus Stops
- Portable Toilets
- Eye Wash/Safety Shower Enclosures
- Pavilions
- Truck Loading Canopies

- Welding Covers
- Covered walkways

6.0 BUILDING SITING PROCESS

6.1 Building/Tent Siting Flowchart

The coordination of an MOC, checklist completions and permit requirements is the responsibility of the person requesting a building/tent or to change the occupancy status. The Anacortes facility siting coordinator will assist with completing a hazard review including working with corporate facility siting SMEs to complete a Consequence Design Basis (CBD) study or Quantitative Risk Analysis (QRA), as necessary.

The Building Siting Flowchart in RSP-1314 Section 4.1 shall be used for all new and existing buildings on refinery owned property regardless of occupancy. Portable buildings on refinery property owned by third parties must also meet this requirement. It is the building owner's responsibility to ensure third party permanent buildings on Marathon property meet the requirements of API 752. Buildings described in RSP-1314 Section 3. 4 (Occupied but Exempt Buildings) are the only exemptions to this requirement. Any new or modified building requires Management of Change as described in RSP-1314 Section 2.3, Managing Change in addition to the siting evaluation.

6.2 Site Specific Hazard Review

The Site Specific Hazard Review, as referenced in the Siting Flowchart of RSP-1314 Section 4.1 requires review of all building hazards. The site specific review format is intended to be similar to a Joint Job Site Safety Review, with the focus on site hazards and building occupants. Review Team Members will vary according to site conditions.

Included in the site specific review are the following:

A. Vapor Cloud Explosions (VCE),

B. Fire (other than VCE events),

C. Toxics (e.g., chlorine, sewer vents, atmospheric vents or reliefs),

D. Electrical Classification,

E. Window – Glass Projectile,

F. Flare Carry-over and thermal radiation,

G. BLEVE, and

H. Other hazards (RSP-1314 Section 8.1).

These hazards could, if not identified and mitigated, put building/tent occupants in harm's way. For example, in the case of electrical classification boundaries, equipment not properly rated could result in an ignition source being placed in an area that may have combustibles present. Hazard reviews done under this practice will exclude natural hazards (tornado, hurricane, earthquake).

Reviewing siting hazards may require a change in the building location and/or a modification of the building design.

Sections 6.3 through 6.7 below provide a basic overview of site specific hazards that must be considered when placing or modifying a building/tent. For more details, see the following sections of RSP-1314:

1. Site Specific VCE Hazard Review (RSP-1314 Section 5.0),
2. Site Specific Fire Hazard Review (RSP-1314 Section 6.0),
3. Site Specific Toxic Release Hazard Review (RSP-1314 Section 7.0), and
4. Other Site Specific Hazard Reviews (RSP-1314 Section 8.0).

6.3 Vapor Cloud Explosions Hazard Review

The following requirements will be observed as basic risk mitigation measures for buildings:

1. No new permanent or portable occupied buildings will be located within a 5 psi blast zone.
2. New permanent occupied buildings in VCE areas greater than 0.25 psi must be engineered to withstand the VCE pressure of the area it is to be located and must have a detailed structural analysis completed.
3. All occupied buildings located in a 0.25 psi blast zone or greater must be evaluated for consequences resulting from VCEs for structural and non-structural hazards.
4. New portable occupied buildings within a 0.6 psi VCE area, or within API RP 753 Zone 1, must be engineered to withstand the VCE pressure of the area it is to be located; and have a detailed structural analysis completed.
5. Non-essential employees will only be housed in portable buildings outside of the 0.9 psi blast zone.
6. New permanent buildings housing non-essential employees must be located outside of the 0.9 VCE zone or be approved by the VP of Refining.
7. Non-essential employees may be housed in existing permanent buildings within a 0.9 psi blast zone. These buildings must be verified as able to accept the VCE loading of the area in which they are located or be approved by the VP of Refining. Additional non-essential employees can only be added by approval from the VP of Refining.
8. No wood frame trailers will be located within a 0.6 psi blast zone or within API 753 Zone 1.
9. Occupied buildings in a 0.25 psi blast zone, or higher, require evaluation of overhead objects to ensure they cannot fall and injure occupants.
10. Occupied buildings in a 0.25 psi blast zone, or higher, require window evaluation/ treatment to minimize the risk of glass shattering hazards.

6.3.1 Window Hazard Mitigation

Occupied buildings with windows present special hazards as windows can shatter and become flying objects when exposed to vapor cloud explosion (VCE) blast pressures. VCE overpressures as low as 0.25 psi can cause glass breakage.

Window hazards to occupants of occupied buildings that are predicted to have VCE pressure greater than 0.25 psi must be mitigated. Examples of hazard mitigations for Non Safe Haven Buildings include, but are not limited to:

- Using plywood or polycarbonate instead of glass,
- Applying safety film to the interior face of the window glass,
- Window curtains designed to hold glass shards,
- Use of laminated glass, and
- Blast designed window panels

Note: Mitigations vary based on building classification (Safe Haven), window size, and predicted explosion pressure. See RSP-1314 Section 5.3 for details on window hazard mitigation.

6.3.2 Non-Structural Hazards

There are a few non-structural issues that need to be considered when evaluating an occupied building for explosions. These items while not related to potential building collapse can cause serious injury and should be evaluated. These include:

- Overhead objects, and
- Door functionality and blast resistance

Overhead objects can fall or be propelled from exterior walls injuring building occupants in explosions as low as 0.25 psi. Occupied buildings in 0.25 psi or higher areas should be evaluated for overhead hazards. RSP-1314 Section 5.4.2 provides a list of overhead objects of concern. Additionally, door functionality after a blast must be evaluated for occupied buildings in a 0.6 psi or higher explosion area.

Additional considerations include hazards from overhead type garage doors or Flammable vapor ingress into a building. Reference RSP-1314 Section 5.4 – Other Non-Structural hazards for a list of considerations and potential mitigations to consider.

6.3.3 Guidance and Building Features for Explosion Hazards

When an occupied building is replaced or retrofitted in order to mitigate explosion hazards, or a new occupied building is constructed in an explosion overpressure area guidance from RSP-1314 Section 5.5 must be observed.

6.4 Fire Hazard Review

1. Permanent buildings must meet the requirements of RSP-1314 PSM/RMP Building and Tent Siting Sections 6.1 through 6.3.
2. Temporary Portable Buildings and Temporary Tents must meet the requirements of RSP-1314 PSM/RMP Building and Tent Siting Section 8.2 and Section 8.3.
3. Building/tent hazard review for fires must include analysis of both Jet Fires and Pool Fires.
4. An occupant response to fire must be determined for each occupied building/tent that could be impacted by an exterior process fire. The response will either be to

shelter in, or to evacuate from, the building/tent. In most cases, the response to a fire should be to evacuate the building/tent to a predetermined safe assembly point. In certain circumstances, such as with Safe Havens, sheltering in a building may be required. Occupied buildings/tents should be designed and placed with sufficient spacing and egress points to allow personnel to either shelter or escape safely in the event of a fire.

6.4.1 Evacuate for Fire

Buildings/tents are considered safe for evacuating from a fire without further analysis, if

1. tents are > 330 feet from live process equipment and are not impinged,
2. buildings have at least one exit that is not impinged by a predicted fire, and
3. the predicted radiant heat dose while escaping building/tent is less than 927 $s(kW/m^2)^{4/3}$.

Buildings/tents not meeting these criteria must

1. be mitigated, or
2. have a more detailed analysis showing that building occupants can safely navigate an escape route during the predicted fire.

The fire mitigation requirements for existing buildings/tents that will be evacuated are found in Section 6.1 of RSP-1314 PSM/RMP Building and Tent Siting.

Note: The 330-foot setback for permanent tents is not mitigated by the steps below.

6.5 Refinery Flare Hazard Review

Refinery flare systems present unique hazards to buildings/tents in the form of potential flammable liquid carryover or from high thermal radiation loads from heavy flaring. The following considerations should be observed:

1. An occupied building/tent exclusion zone shall be established around flare stacks to minimize the risk associated with potential liquid carryover from the flare. The size of the exclusion zone for existing buildings/tents may be established by each site, but must not be less than 100 feet from the base of the flare stack. New buildings/tents should be located a minimum of 200 feet from the base of the flare stack for flare stacks greater than 75 feet in height, and 300 feet from the base of the flare for flare stacks less than 75 feet in height. (see SP-50-01.5)
2. New occupied buildings/tents should be excluded from areas within the 1500 Btu/hr/ft+ (including the effects of solar radiation) flare radiation circle as calculated using the worst case flare scenario with the typical flare system line-ups in service.
   A. This limit may be increased where protective measures are taken to protect building/tent occupants and escape routes from higher levels of thermal radiation.
   B. A 500-foot radius from the base of the flare stack may be used for the radiation exclusion zone where radiation calculations are not performed.

3. Occupied buildings/tents will be addressed for radiant heat flare hazards using radiant heat loads from the site's flare study. The evaluation will be similar to that outlined in RSP-1314 Section 6.1 for process fires.

6.6 Toxic Hazard Review

Potential toxic releases must be considered in occupied building/tent placement. There are typically two compounds present in the refinery that could potentially form a toxic release: hydrogen sulfide and ammonia. Mitigation measures may be employed to reduce the risk from a toxic release. These mitigation measure can be found in Section 7.1 of RSP-1314 Building and Tent Siting.

All occupied buildings not designated as a Safe Haven require occupants to evacuate and muster according to the site Emergency Response Manual in the event of a toxic release. Tents cannot be designated as a Safe Haven.

6.6.1 General Toxic Release Requirements

Anacortes's Emergency Response Plan and includes an alarm and other means of notifying employees of a toxic release which requires evacuation or activation of a Safe Haven. The Notification (alarm) of a toxic release event must be audible in all occupied buildings/tents.

The ER Plan includes procedures for toxic release. The procedures include the following required elements:

1. A listing of Safe Haven buildings or rooms.
2. Defined conditions for when to activate Safe Haven locations.
3. Instructions and training for employees who are outdoors when the release alarm is sounded to remain outdoors and to evacuate cross-wind or upwind.
4. Instructions and training for employees that are indoors when a release alarm is sounded to place the building in Safe Haven mode or evacuate to a safe location according to the building/tent procedures.
5. Plans for tracking where employees are sheltered and protecting them from developing hazards (e.g., an encroaching fire).
6. The building/tent evacuation and safe haven procedures should be trained on and functionally drilled annually.

6.6.2 Buildings/Tents Designated - Evacuation

Buildings/tents designated as Evacuation must have procedures and features for notifying, evacuating, and accounting for personnel. See RSP-1314 Section 7.2 for minimum requirements.

6.6.3 Building Designated – Safe Haven

Protecting a Safe Haven from toxic releases can be very complex. RSP-1314 Building and Tent Siting Appendix H contains a complete discussion of Safe Havens as well as guidelines for scenario evaluation and requirements for procedures, features, and mitigation. All designated safe havens must meet the requirements of RSP-1314.

6.6.4 Features for New Buildings/Tents for Toxic Hazards

New occupied buildings/tents must be designed and placed with sufficient spacing and egress points to allow personnel to either shelter or escape safely in the event of a toxic release. An occupant response to toxic release must be determined for each new occupied building/tent that could be impacted by such a release. At the Anacortes Refinery the response of non-essential personnel is to evacuate the building/tent. See the site Emergency Response Manual for additional details.

New occupied buildings/tents must be located and/or designed to meet the Hazard Acceptance Criteria in Table 4.4 of RSP-1314 Building and Tent Siting or have hazard mitigating features to protect the occupants from the predicted MCEs as they shelter or evacuate. Temporary Portable Buildings and Temporary Tents are not subject to these criteria, but must meet the requirements in Section 8.3 and Section 8.4 of RSP-1314 Building and Tent Siting. New Safe Havens must meet the requirements in Appendix H of RSP-1314 Building and Tent Siting.

6.7 Other Hazards

Other hazards may include, but are not limited to:

- Power lines,
- Electrically classified areas (buildings must be rated for the area in which they are located),
- Traffic patterns,
- Rail lines,
- Heavy lift locations,
- Crane set-up,
- Sewer vents,
- Atmospheric vents or reliefs,
- Structures with maintenance/construction activities (equipment/structure falling),
- Vehicle exhaust,
- Pipe racks,
- Nitrogen plants,
- Consider off-site issues such as other industrial facilities, and
- Others identified on a case-by-case basis.

Appendix F of RSP-1314 Building and Tent Siting contains a listing of hazard mitigation measures that may be employed to reduce risks.

Note: These site specific hazards should be reviewed by a local building/tent siting review team, with set-backs determined on a case-by-case basis.

6.7.1 Temporary Tents

Tents may be used on a temporary basis (see RSP-1314 Appendix A.23 for a definition of Tents). Typically temporary occupied tents are associated with

specific work events or projects, such as unit turnarounds, major maintenance, or revamps. While the various work events have differing durations, the tent will be considered temporary for the duration of the work event or project provided the tent was erected for a specific purpose and will be dismantled at the completion of the purpose. Tents which remain erected for multiple projects or turnarounds will be considered permanent tents. Occupied temporary tents in potentially hazardous areas must meet the criteria in RSP-1314 Section 8.2.

6.7.2 Temporary Portable Buildings

A Temporary Portable Building (TPB) is a portable occupied building generally associated with a turnaround, shutdown, or other maintenance activity where the portable building is anticipated to be occupied for 90 days or less. For the purposes of this section, TPB refers to a single building unit. Where multiple units are attached together or stacked, normal portable building requirements apply. Where anticipated occupation is greater than 90 days, requirements for regular portable buildings must be followed. Temporary Portable Buildings are subject to building permitting and MOC requirements and therefore require a site specific hazard analysis to be done and documented. A PMOC checklist for Temporary Portable Buildings has been developed for use at the Anacortes Refinery. The PMOC checklist can be access from the following location:

Anacortes Refinery SharePoint -> ESS -> Process Safety -> MOC/PSSR -> PMOC Links

6.7.3 T/A or Shutdown Situations

In T/A or shutdown situations, the source of VCEs, fires, or toxics may be considered removed from equipment that has been de-inventoried and de-pressured. When this exception is used, the guidance in RSP-1314 Section 8.3 must be followed.

6.7.4 Requirements for Attended Tool or Material Trailers

Attended tool and/or material portable buildings may be periodically used in the refinery for the purposes of allowing tools and materials to be located near a worksite. Attended tool and/or material trailers are subject to building permitting and MOC requirements and therefore require a site specific hazard analysis to be done and documented. The presence of these trailers will be managed as described Attachment 4.

6.8 Hazard Acceptance Criteria

The preferred method for analyzing the hazards associated with Vapor Cloud Explosions, Fires, and Toxic Releases will be a Consequence Analysis however, In certain circumstances the site may wish to elevate from the Consequence Analysis to a more rigorous Quantitative Risk Analysis (QRA). The building siting SME will provide oversight for ensuring the QRA meets the requirements of API RP 752 and API RP 753.

RSP-1314 Section 4.4 has established hazard acceptance criteria for occupied buildings/tents subject to hazards from VCEs, fires and toxic release.

7.0 BUILDING/TENT PERMITS

7.1 Permit and Label Requirements

All new and existing occupied buildings/tents on at the Anacortes Refinery must have a building/tent permit. Portable occupied buildings on refinery property owned by third parties must also meet this requirement. It is the building owner's responsibility to ensure third party permanent buildings on MPC property meet the requirements of API RP 752. Buildings described in RSP-1314 Section 3.4 and Section 3.5 are the only exclusions from this requirement. Each building/tent must have a sign or a label affixed to it indicating a unique building identifier, which must match the building identifier on the permit for that building/tent. The Anacortes building permit will document key information about the building/tent, potential hazards and safeguards, temporary building use dates, and indicate whether the building is occupied or not intended for occupancy.

It is the responsibility of the requestor (MOC responsible person) to compete the building permit and checklist and receive the necessary approvals from the facility siting coordinator, safety department, and area owner that the building/tent is to be placed at.

The Anacortes Refinery Occupied and Un-Occupied Building/Tent Permits and the portable building checklist are listed in Sections 11.0, 12.0, and 13.0 of this standard.

Once the permit is completed (including signatures from all necessary parties), a copy of the permit and checklist must be sent to the facility siting coordinator. Completed building/tent permits must be compiled and maintained as part of the Building and Tent Siting Study information and must be available for review by PHA teams. Completed building/tent permits are stored electronically at the following location:

R:\Process_Safety_Management\Facility Siting\Completed Building Permits

Reference RSP-1314 Section 4.6 for additional information regarding permit and permit management requirements.

Below summarizes MOC and Permit requirements by building/tent type.

7.1.1 Permanent Buildings/Tents

- Requirements for placing a permanent building/tent include a regular MOC to be completed for each addition/modification/deletion for all permanent structures (occupied or unoccupied).
- Occupied permanent buildings will also require an Occupied Building Siting Permit (Section 12.0, Attachment 2) to be completed and filed with the PSM group and the MOC when placing a permanent occupied building.
- Un-occupied buildings will require an un-occupied permit (Section 13.0, Attachment 3)
- New permanent buildings and retrofits must also meet the specific design requirements in Refinery Standard Practice, RSP-1314 PSM/RMP Building and Tent Siting.

7.1.2 Portable Buildings/Tents

- Portable buildings and tents are typically contractor buildings, rentals, or tents that are on-site for long term or temporary durations. These types of buildings or tents are either occupied or unoccupied. A regular MOC is

required for placement of any occupied or un-occupied portable building or tent.

- Occupied portable buildings/tents will also require an Occupied Building/Tent Siting Permit and buildings will require a Building Siting Checklist (see Sections 11.0 and 12.0, Attachments 1 and 2) to be completed and filed with the PSM group, expect as noted in RSP-1314.
- Unoccupied buildings will require an Unoccupied Building/Tent Permit (See Section 13, Attachment 3)
- Reference RSP 1314 Sections 8.2 through 8.4, for requirements of temporary buildings and tents.
- Temporary Portable Buildings (TPB) intended for use beyond 90 days are required to follow the requirements of permanent portable buildings for VCE, Fire, and Toxics of RSP-1314 Section 8.3.1.

Exceptions to the above include:

- **Working Tents** – working tents as defined by Appendix A.28 of RSP-1314 are excluded from the MOC process and managed with safe work permits.
- **Small Tents** – tents of lightweight components (such as an EZ-UP, no scaffold components) and less than 150 Sq. Ft. of floor area are excluded from the MOC process. Joining of multiple lightweight tents negates this exception.
- Anytime a portable occupied but exempt building or tent (see RSP-1314 3.4.2 for definition/list) or a non-occupied equipment enclosure tent, an Enclosure JJSV Checklist shall be completed by the enclosure requestor and owning department.
- Tents located outside of the refinery fence line and outside of Zone 1 are exempt. These are typically event tents for short-term use.

8.0 ROLES AND RESPONSIBILITIES

Developing, implementing, and maintaining a healthy building siting program takes the effort of all employees. Key roles and responsibilities are outlined below.

Role	Responsibilities
ES&S Manager	Ensures responsibility for the overall implementation of the Refinery Building Siting Program.
Facility Siting Coordinator	• Coordinates Building and Tent Siting studies ensuring they are completed on time and in accordance with the requirements of this standard. • Maintains up-to-date building/tent and building/tent hazard plot plans. • Ensures building/tent siting studies are available for PHA teams. • Determines siting study scope for buildings/tents not specifically listed in RSP-1314 Section 3.0. • Completes building/tent siting hazard reviews for existing buildings. • Completes building/tent permits for existing buildings. • Approves new building/tent locations for new buildings/tents.

Role	Responsibilities
	• Evaluates evidence that permanent buildings on MPC property but owned by a third party, are in compliance with API RP 752.
PSM Coordinator	• Ensures building/tent siting action items and recommendations are risk ranked according to the Risk Calibration Standard and risk ranking communicated to site management. • Ensures building/tent siting action items and recommendations are tracked and completed on schedule.
Building Owner	• Identifies changes to buildings/tents and occupancy that must be managed. • Monitors occupancy.
Building Requester	• Completes site specific building/tent siting hazard review for new buildings/ tents. • Completes building permit for new buildings.
Change Requester	Ensures MOCs are initiated and completed as required in this standard.
Development Team	This team will develop the scenarios to be used for the maximum credible events using their knowledge, experience, and the guidance in RSP-1314 Appendix B.
Building Siting Review Team	Ensures the completion of Building/Tent Siting related hazard reviews, MOC reviews, and Building/Tent Permits, between the 5-year Building Siting Studies, as a team function. **Notes**: 1. Each team should consist of the Building Siting Coordinator, the building Site Owner, Change Requester (if applicable), and representation from Engineering and Safety. 2. Representatives from Operations, Maintenance, and Technical Service may also be required as determined by the Building Siting Coordinator.
Engineering Building Siting Representative	• Participates on the Building Siting Review team. • Provides technical assistance or coordinate 3rd party assistance to evaluate a building's ability to withstand a VCE, fire, or toxic release. • Evaluates electrical classification issues.
Safety Building Siting Representative	• Participates on the Building Siting Review team. • Provides technical assistance evaluating building/tent emergency exits, smoke detection, fire extinguishers, and overall emergency response.
Refinery Leadership Team (RLT)	Reviews recommendations and risk rankings from Building and Tent Siting Study, and coordinates response actions as required.
Division Manager	• Approves building/tent hazard mitigation plans for buildings/tents not meeting the requirements of this standard. • Approves placement of new occupied buildings/tents within a 3 psi VCE area. • Approves cost/benefit analyses used to reduce VCE design margins.
VP of Refining	• Approves building/tent hazard mitigation plans in accordance with the Risk Calibration Standard. • Authorizes new and existing buildings located within a 5 psi VCE area to be occupied.

Role	Responsibilities
	• Authorizes non-essential employees to occupy certain new and existing buildings/tents as outlined in Section 7.2.

9.0 AUDITS

As required by RSP-1312: PSM/RMP Compliance Audits, buildings/tents within the Anacortes Refinery that are not intended for occupancy must be audited through a Tier 1 (Self-Audit) audit protocol annually. Exceptions to audit frequency are noted in RSP-1312.

An additional self-audit of one or more zones using the form in Attachment 6, shall be completed annually. Any deficiencies noted from the self audits are to be uploaded to Intelex.

10.0 REVIEW AND REVISION HISTORY

Revision #	Preparer	Date	Description
0	E. Slodysko	3/9/2022	Section 4.2 – Added detail on Proceduralized Management of Change (PMOC) process and requirements Section 6.7.2 – Added detail on PMOC developed for temporary portable buildings (TBPs) and location of PMOC checklist per MOC #94205. Reformatted and Numbered per Document Control Policy, R-63-001

11.0 ATTACHMENT 1 – PORTABLE BUILDING PLACEMENT CHECKLIST SAMPLE (R-12-011-F01)

Marathon Petroleum Company	REFINERY-WIDE	R-12-011-F01
ANACORTES REFINERY	Portable Building Placement Checklist	Page 1 of 3 REVISION: 0

Requestor:	Today's Date:	Building Number: *(Per Facility Siting Coordinator)* *(Complete a new form for each additional unit)*
Location: *(Sketch preferred showing specific dimensions)*	Removal Date:	Type of Unit: Size of Unit:

Items	Yes	No	N/A	Comments
1. Is the proposed siting "safe" per the Facility Siting Coordinator risk assessment?	☐	☐	☐	
2. If building is located in Zone 1 or 0.9 psi overpressure contour, are occupants considered essential?	☐	☐	☐	
3. Location is outside dike walls used for product containment.	☐	☐	☐	
4. If the building becomes involved in a fire, location is where it does not affect hydrocarbon lines, electrical systems, or other infrastructure systems.	☐	☐	☐	
5. Sewer connection is properly sealed to prevent ingress of vapors (i.e. P-traps installed according to code).	☐	☐	☐	
6. Large pieces of office equipment or stacks of materials inside building are secure to prevent them tipping or falling on someone?	☐	☐	☐	
7. Location is where heavy lifting does not occur near or over the building.	☐	☐	☐	
8. Building is anchored according to manufacturer's specifications to prevent overturn (See Attachment installation Guide).	☐	☐	☐	
9. Have all exterior windows been treated or covered to prevent injury from flying glass if a VCE occurs? *(This step is not required if outside 0.25 psi contour)*	☐	☐	☐	
10. Skirting is installed (*This step is not required in zone 3*).	☐	☐	☐	
11. Structure has been set upon a firm foundation.	☐	☐	☐	
12. Area Safety Specialist has been notified so that pre-fire plan can be developed and assurances that existing pre-fire plans are not compromised.	☐	☐	☐	
13. Egress from building is clearly designated with exit signs if exit is not clearly evident. Outside doors open outward.	☐	☐	☐	

Marathon Petroleum Company LP	REFINERY-WIDE	R-12-011-F01
ANACORTES REFINERY	Portable Building Placement Checklist	Page 2 of 3
		REVISION: 0

Items	Yes	No	N/A	Comments
14. Emergency response plan, evacuation, and routine travel from place to place have been identified and/or posted:	☐	☐	☐	
15. Evacuation Map containing instructions posted (see eDoc C39A309)	☐	☐	☐	
16. Evacuation Warden identified *(list full name)*:	☐	☐	☐	
17. The lighting fixtures, ceiling or wall-mounted *equipment are well supported so they will not fall on* someone?	☐	☐	☐	
18. Is the building pressurized?	☐	☐	☐	
19. Can the ventilation system be shut down to prevent the ingress of outside air?	☐	☐	☐	
20. Is the fresh air intake properly located?	☐	☐	☐	
21. If necessary, has respiratory escape PPE been provided?	☐	☐	☐	
22. Are windsocks visible from windows or trailer doors?	☐	☐	☐	
23. Is exterior lighting adequate?	☐	☐	☐	
24. Can building occupants hear the emergency siren?	☐	☐	☐	
25. Is the building positioned so that occupants may evacuate outdoors that open away from any potential radiant heat source?	☐	☐	☐	
26. Is there exterior and interior fire suppression equipment available?	☐	☐	☐	

Items	Yes	No	N/A	Comments
1. Access stairways have handrails, are approximately even with door threshold, and are secured to structure.	☐	☐	☐	
2. **Electrical system meets all State, Federal, and Local requirements:**	☐	☐	☐	
• GFCI protection	☐	☐	☐	
• Service disconnecting switches clearly labeled	☐	☐	☐	
• Panel directory updated and legible	☐	☐	☐	
• Grounding and bonding systems	☐	☐	☐	
• Fluorescent tube protectors in place	☐	☐	☐	
• Emergency lighting provided for exits *(i.e. Only if occupied after dark)*	☐	☐	☐	
• Marathon and Washington State electrical inspections complete	☐	☐	☐	
• Location meets area electrical classification requirements (See eDoc D17P399)	☐	☐	☐	

3. **Unit is equipped with proper fire extinguisher(s):** • Electronic equipment (normally, one 5# Foray and/or one 5# CO2 extinguisher • No electronic Equipment (Ansul model 5A extinguisher rated 2A, 5BC) • Maintain minimum 15 ft. spacing to the nearest fire equipment • When several occupied portable buildings are grouped together, a 20-lb. foray extinguisher shall be centrally located, noted on the evacuation map in "Red" and location must be approved by the Area Safety Specialist	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐	

4. **Permit Requirements:**
   - A permit will be issued for placement when items checked "No" have been appropriately addressed.
   - Copies of the approved checklist and permit shall be posted in a conspicuous location along with the evacuation information.
   - Another copy shall go to the Marathon Facility Siting Coordinator.
   - Moving this unit or changing the permitted purpose, requires notification to the Marathon Facility Siting Coordinator.
   - A risk-based analysis was conducted with the persons whose signatures are shown below, and all agree on the location for the siting of this building.

Requestor Signature:

Area Safety Specialist Signature:

Electrical Inspector Signature: *(Required for any electrical connections)*

Operations Superintendent Signature: *(Required if on or adjacent to process unit)*

12.0 ATTACHMENT 2 – OCCUPIED BUILDING/TENT PERMIT SAMPLE (R-12-011-F02)

Marathon Petroleum Company	REFINERY-WIDE	R-12-011-F02
ANACORTES REFINERY	Occupied Building/Tent Permit	Page 1 of 2
		REVISION: 0

OCCUPIED BUILDING/TENT PERMIT *(To be filled out by MOC RP or Building Owner)*			
Building Number/Name:		**Trailer Serial Number:**	
Company or Contractor:		**MOC #:**	
Requestor Name:		**Date:**	
1) INFORMATION SECTION			
Intended Use: ☐ Office ☐ Break/Lunch ☐ Control ☐ Occupied Tool/Storage ☐ Workshop ☐ Other			
Building Type: ☐ Wood Frame ☐ Metal Frame ☐ Reinforced Masonry ☐ Blast Resistant ☐ Tent ☐ Other			
Occupancy Dates:	Permanent: ☐	Temporary: ☐ In:	Out:
		TPB [1]? ☐ Yes ☐ No	Temp Tent? ☐ Yes ☐ No
Building Occupants:	Essential: ☐	Non-essential: ☐	Safe Haven: ☐
Location Description:		**Coordinates (Google Earth):**	
[1] To be considered a temporary portable building (TPB), the building cannot be occupied for more than 90 days			
Normal Occupancy Load:	People	Hours/Day	Days/Week
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 *(Refer to RSP-1314 for Additional Information)*			
Building highest VCE: psi / milliseconds If within 5 psi overpressure contour, VP Refining approval required If within 3 psi overpressure contour, Div Manager approval required		**If VCE ≥ 0.9 psi, will building include non-essential personnel?** ☐Yes ☐No ☐N/A If YES, Div Manager approval required	
Meets VCE requirements of RSP-1314? : ☐ Yes ☐ No ☐ N/A			
Meets Fire requirements of RSP-1314? : ☐ Yes ☐ No ☐ N/A			
Meets Toxic requirements of RSP-1314? : ☐ Yes ☐ No ☐ N/A			

SAMPLE

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Marathon Petroleum Company LP	REFINERY-WIDE	R-12-011-F02
ANACORTES REFINERY	Occupied Building/Tent Permit	Page 2 of 2
		REVISION: 0

Building Fire Response: ☐ Safe Haven ☐ Evacuate		Building Toxic Response: ☐Safe Haven ☐ Evacuate	
Electrical Classification Area:		Building meets area electrical classification requirements:	☐ Yes ☐ No [2]
[2] If No, the building must not be energized			
Building Pressurized: ☐ Yes ☐ No			
The following *Other Hazards* have been reviewed with no gaps identified ☐ Power Lines ☐ Traffic(vehicle/rail/foot) ☐ Heavy Lift Locations ☐ Sewer Vents ☐ Atm Vents/Reliefs ☐ Vehicle Exhaust ☐ Nitrogen Plants/Storage ☐ Offsite Issues ☐ Other (list)			
Meets Skagit County Set-Up requirements (see attachment) ☐ Yes ☐ No ☐ N/A			
Risk Ranking (occupied only):		Mitigation Plan Complete: ☐ Yes ☐ No ☐ N/A	
Building Checklist Completed ☐ Yes ☐ No			

3) APPROVAL SECTION *(All signatures required except as noted below)*

Role	Name	Signature	Date
Building Site Owner			
Electric Shop Foreman			
Area Safety Specialist			
Facility Siting Coordinator			
Engineering Manager [3]			
Division Manager [4]			

[3] Engineering Manager signature required for new or significantly modified buildings
[4] Division manager approval is only required for continued occupation of buildings not meeting the VCE, Fire, or Toxic requirements of RSP-1314 or for new buildings in a 3 psi or higher area

13.0 ATTACHMENT 3 – UNOCCUPIED BUILDING/TENT PERMIT SAMPLE (R-12-011-F03)

Marathon Petroleum Company LP	REFINERY-WIDE	R-12-011-F03
ANACORTES REFINERY	Unoccupied Building/Tent Permit	Page 1 of 1
		REVISION: 0

UNOCCUPIED BUILDING/TENT PERMIT *(To be filled out by MOC RP or Building Owner)*

Building Number/Name:		**Serial Number:**	
Company or Contractor:		**MOC #:**	
Requestor Name:		**Date:**	

1) INFORMATION SECTION

Intended Use/Purpose:

Building Type: ☐ Wood Frame ☐ Metal Frame ☐ Reinforced Masonry ☐ Blast Resistant ☐ Tent ☐ Other

Installation Dates:	Permanent: ☐	Temporary: ☐ In:	Out:
Location Description:		**Coordinates (Google Earth):**	

Building meets area electrical classification requirements: ☐ Yes ☐ No

If No, the building must not be energized

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) APPROVAL SECTION *(All signatures required except as noted below)*

Role	Name	Signature	Date
Building Site Owner			
Electric Shop Foreman			
Area Safety Specialist			
Facility Siting Coordinator			

SAMPLE

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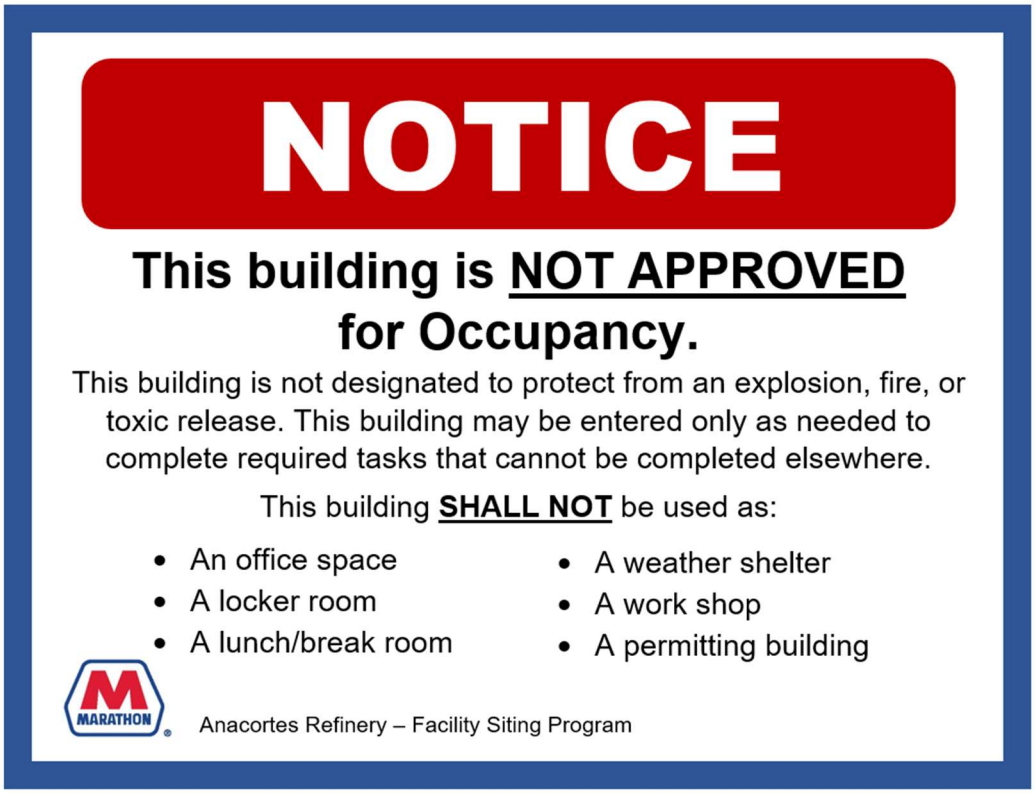
R-12-011-F03 This copy was printed on 3/10/2023

14.0 ATTACHMENT 4 – REQUIREMENTS FOR TOOL/MATERIAL TRAILERS

For	Description
Attendant Stationed Inside the Building	When an attendant is stationed inside a portable tool or material building, the building is considered occupied and must be managed similar to other occupied portable buildings as outlined in this Refining Practice. **Note**: There are special provisions for occupied portable buildings when used on a temporary basis as outlined in RSP-1314 Section 8.3.
Attendant Stationed Outside of the Building	When the attendant is stationed outside of the building, the following requirements must be met: a. No one may be stationed inside the trailer. b. No occupancy is allowed other than that required for retrieving or returning a tool or material by the attendant. c. No evidence of occupancy is allowed inside the building (e.g., chairs, desks, heaters, workshops, etc.). d. A sign similar to that in RSP-1314 Appendix I must be posted at the entrance to the trailer. e. The trailer may not be located 1. In any 5 psi VCE area, 2. In a Class I Division II electrical classification area unless the unit/equipment is de-inventoried (regardless of classification of building and components), 3. In any location where pooling of flammable liquids could occur, **Note**: This includes hydrocarbon tank dikes unless the tank is de-inventoried and clean. 4. Within 165 feet from process equipment in toxic service, unless the toxic requirements in RSP-1314 Section 8.3 for buildings to be evacuated are met, or 5. 200 feet from the base of any flare. f. Other requirements for Tool & Material Trailers: 1. A small deck and canopy, with no walls, may be provided at the trailer for limited protection from the weather. • The deck must not be larger than 100 ft+. • The canopy must be built from scaffold poles covered with a tarp or plastic sheeting. Solid or heavy roofing materials such as plywood or scaffold planks must be avoided unless the tool trailer is outside of Zone 1 and the 0.6 VCE area. 2. Any individual responsible for the tool trailer cannot have a chair or desk within 10 feet of the entrance to the tool trailer in order to reduce the risk of flying debris in a VCE scenario. 3. The main entrance/exit shall face away from likely VCE, fire, and/or toxic sources if at all possible. 4. The MPC Contractor Coordinator will be responsible for ensuring the Tool and Material Trailers are meeting the above requirements, and the ES&S Department will audit the Tool and Material Trailers weekly to verify that the MPC Contractor Coordinator is maintaining the Tool and Material Trailers in accordance with the above requirements. Any violations to these Tool and Material Trailer requirements must be addressed with coaching and/or discipline up to and including discharge for willful violations. 5. Communicate these requirements to all MPC turnaround support personnel and any contractors bringing in a Tool & Material trailer.

15.0 ATTACHMENT 5 – UNOCCUPIED BUILDING SIGN

The figure below is a sign that may be used to meet the building signage requirement in RSP-1314 Section 3.3. 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. Sites may develop their own signs if desired.



16.0 ATTACHMENT 6 – FACILITY SITING AUDIT FORM SAMPLE (R-12-011-F04)

Marathon Petroleum Company	REFINERY-WIDE	R-12-011-F04
ANACORTES REFINERY	Facility Siting Audit Form	Page 1 of 1 REVISION: 0

Auditor:	Date:		
Zone/Areas Audited:			
Audit Items	**Yes**	**No**	**Description**
Are all temporary/portable buildings removed which are listed on the returned building permit applications? • Buildings Audited: *(list numbers)*	☐	☐	If no, list the building number(s):
• If a building permit was returned, but the building is still on-site, then notified the Requestor that the permit must be displayed in the building until it is moved off-site?	☐	☐	If no, justify:
• Are the building permits current?	☐	☐	If permits are not current, list status:
Do Facility Siting Maps (Google Earth and D40[illegible]) match the temporary/portable buildings that are present?	☐	☐	If no, mark location(s) on the Facility Siting Map with the building type, size, and number. Provide map revisions to drafting for updating.
• Requested Facility Siting Map updating?	☐	☐	If yes, date of map revision: If no, justify:
• Are the current temporary/portable buildings logged in the master database?	☐	☐	If no, find stakeholders for required permit documentation
Do the building uses match their permitted status as occupied or unoccupied?	☐	☐	If occupied use indicated for an unoccupied permit, contact requestor to ensure permitted use is restored immediately. List the building number(s):
Are all issues resolved?	☐	☐	If no, justify:
Audit Closure			
Facility Siting Coordinator: _____			Date:

17.0 ATTACHMENT 7 – HAZARD MITIGATION MEASURES

The table below, taken from API RP 752, provides examples of hazard mitigation measures that may be employed to reduce risks associated with refinery buildings/tents.

Example Measure	
PASSIVE	
Eliminate Hazard	Substitute with nonhazardous material/process conditions
Prevent Release (i.e., reduce frequency of scenario)	(a) Upgrade metallurgy or design of equipment (b) Reduce leak sources (eliminate flanges, drains, small bore piping, etc.) (c) Rate equipment for maximum upset pressure
Control Size of Scenario	(a) Minimize confinement (b) Minimize congestion (c) Utilize spill control dikes, curbs, etc. to limit extent of pool fires and limit vapor dispersion from pools of flashing liquids (d) Minimize release rate – provide flow restrictions (either limiting pipe size or adding restriction orifices) to reduce the potential severity of a release from downstream equipment (e) Reduce inventory of hazardous material (can reduce duration of fire and gas release scenario)
Mitigate Effect to Building/Tent Occupants	(a) Relocate personnel (especially personnel that are non-essential) (b) Design or upgrade existing building/tent to protect occupants from explosion, fire, or toxics (c) Tightly seal windows and tight double doors (air locks) to minimize toxic/flammable gas and smoke ingress
ACTIVE	
Prevent Release (i.e., reduce frequency of scenario)	Safety instrumented systems
Control Size of Scenario	(a) Fire and gas/emergency shutdown systems (reducing quantity released) (b) Fixed/automatic active firefighting systems
Mitigate Effect to Building/Tent Occupants	(a) Issue occupants with personal protective equipment (PPE) for hazards (b) HVAC air intake shut down on detection of flammable/toxic gas
PROCEDURAL	
Prevent Release (i.e., reduce frequency of scenario)	(a) Mechanical integrity inspection (b) Permits for hot work, lockout/tagout, line breaking, lifting, etc. (c) Sampling to prevent contamination of reactive materials
Control Size of Scenario	Manual active firefighting systems
Mitigate Effect to Building/Tent Occupants	(a) Emergency response plan including, as appropriate; evacuation, escape routes, sheltering, etc. (b) Evacuate building/tent occupants during start-up and planned shutdown

18.0 ATTACHMENT 8 – INTERIM MEASURS FOR TEMPORARY TENTS

In some circumstances, temporary tents may be needed closer than 330 feet to live process equipment. As outlined in RSP-1314 Section 8.2, the distance may be reduced to 200 feet with appropriate interim measures in place. The requirements for the interim measures discussed in RSP-1314 Section 8.2 are defined below.

Gas Detection

a) Gas detectors are to be supplied for LEL and toxic gases which could impact the tent.

b) The detectors will be placed approximately half way between the tent and the potential source of flammable or toxic gases.

c) The detectors must have alarms that sound at a predefined set point (at or below the PEL for toxics and at or below 10% LEL for flammables).

d) Use as many detectors as required to reasonably cover the area between the tent and potential leak points.

Tent Watch

a) Philosophy: Tent occupants have a reduced awareness of potential hazards outside of the tent compared to employees working outdoors, the closer tents are to potential hazards, the more this reduced awareness becomes important. Furthermore, tents offer a lesser degree of protection from fires, explosions, or releases than do blast resistant modules. To reduce this aspect of risk, a tent watch will be assigned to the tent anytime it is occupied. The tent watch will act as the eyes and ears of the tent occupants and warn them of any developing hazards.

b) Training: Tent watches must be trained on the following:

   i. The site emergency response plan

   ii. How to evacuate the tent in the event of developing hazards

c) Equipment:

   i. A radio with the emergency band

   ii. Air horn

d) Responsibilities:

   i. On duty anytime the tent is occupied.

   ii. Remain outside the tent to watch and listen for potential developing hazards.

   iii. Patrol the exterior of the tent watching for developing hazards such as fires, pools of hydrocarbons, or vapor clouds.

   iv. Periodically monitor the gas detection equipment for elevated levels.

   v. Listen to the emergency band for developing hazards or other safety related situations.

   vi. Alert occupants (air horn) and facilitate evacuation of the tent in the event of developing hazards.

   vii. Communicate to the EOC if the tent is being evacuated and why.

Training

a) Employees and contractors assigned to use a break or lunch tent must be trained at the onset of the turnaround (Pre-T/A) or project of the following:

   i. The site emergency response plan.

   ii. That the tent must be evacuated in the event of a fire/ explosion, or release. The occupants must evacuate to a predetermined muster location.

   iii. That there may be tents watch on duty. The occupants must follow the instructions of the tent watch.

b) To hit the largest number of contractors, it is proposed to include this training as part of the T/A specific training given to contractors before the outage.

c) An alternate is to complete the training via tailgate or start of shift meetings.

Drills

An evacuation drill for each lunch or break tent must be conducted at least once on each shift at the onset of the Turnaround or project to ensure the occupants understand how to evacuate the tent and to determine if there are any obstacles to timely evacuation that need to be addressed. The purpose will be twofold:

a) Give occupants a chance to practice the evacuation.

b) Give site personnel an opportunity to evaluate the evacuation process, evacuation route, and identify any obstacles to an orderly evacuation either inside or outside the tent.