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Guidelines for the Aboveground Storage Vessel Safety Program

Prepared by
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Office of Compliance and Enforcement

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY • PO BOX 13087 • AUSTIN, TX 78711-3087

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1. texas-sos.appianportalsgov.com/rules-and-meetings?chapter=338&interface=VIEW_TAC&part=1&title=30

Introduction

Background and Summary of the Factual Basis for the Adopted Rules

There were multiple chemical fires in the past few years in Texas that indicated the need for additional safety protocols for certain vessels. The adopted new Title 30 Texas Administrative Code (30 TAC) Chapter 338, Aboveground Storage Vessel Safety (ASVS) Program, is necessary to implement Senate Bill (SB) 900,[2] 87th Texas Legislature, which requires the establishment of the new ASVS Program in the state.

SB 900 amended the Texas Water Code (TWC) to establish the Performance Standards for Safety at Storage Vessels Program within the commission. The executive director designated this program as the ASVS Program. The bill identifies the safety elements that the commission must include in these standards and the entities regulated under this new program. The bill requires the commission to establish an ASVS program to provide for the protection of groundwater and surface water resources in the event of an accident or natural disaster. SB 900 requires this program to include all critical safety elements applicable to an ASV and that the commission determines to be critical for the protection of groundwater and surface water resources based on the federal statutes and regulations identified in the bill, along with national consensus standards also listed in the bill.

The bill authorizes the commission to conduct rulemaking to establish the effective date of the standards used in implementing the program under the conditions identified in the bill. The new rules in 30 TAC Chapter 338 became effective on Aug. 24, 2023.

The commission must establish fees sufficient to cover the costs of implementing the registration program, reviewing [2]initial and ten-year certifications, amending certifications, inspecting registered/certified facilities, and enforcing compliance with the statutes, rules, and orders.

How Do I Use This Document?

This document is a technical guidance designed for owners and operators of sources covered by 30 TAC Chapter 338. It will help you to:

- Determine if you are covered by the rule;
- Determine what level of requirements is applicable to the standards of 30 TAC Chapter 338;
- Understand what specific management program activities must be conducted based on your applicable standards;
- Understand the reporting, documentation, and recordkeeping components of the rule;

[2] capitol.texas.gov/tlodocs/87R/billtext/html/SB00900F.HTM

- Understand and complete the registration and certification requirements of the rule.

Review the regulations and this guidance to develop a strategy for conducting the additional actions you need to take for each covered process. Discuss the requirements with facility management and staff.

Relationship to Other Regulations

The owner or operator of an ASV must comply with any other laws and regulations, including those of any other federal, state, or local governmental agencies or entities. Compliance with the requirements of 30 TAC Chapter 338 does not relieve an owner or operator from responsibilities of compliance with other applicable regulations.

Responsibilities of Owners and Operators

The owners and operators of ASVs that are subject to the provisions in 30 TAC Chapter 338 are responsible for complying with this chapter. Owners and operators are responsible for any violations or noncompliance of any person employed or contracted by the owner or operator.

Acronyms and Definitions

List of Acronyms

AOPS – Automated Overfill Prevention System

API – American Petroleum Institute

API RP – American Petroleum Institute Recommended Practice

ASME – American Society of Mechanical Engineers

AST – Aboveground Storage Tank

ASTM – American Society for Testing and Materials

ASV – Aboveground Storage Vessel

ASVS – Aboveground Storage Vessel Safety

CBI – Confidential Business Information

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act

CFR – Code of Federal Regulations

CP – Cathodic Protection

DOT – U.S. Department of Transportation

EOP – Emergency Operating Procedure

EPA – U.S. Environmental Protection Agency

ERD – Environmental Regulations Division

FDA – U.S. Food and Drug Administration

FDCA – Federal Food, Drug, and Cosmetic Act

FFS – Fitness-for-Service

FMEA – Failure Mode and Effects Analysis

FRP – Facility Response Plan

HAZOP – Hazard and Operability Study

IBC – Intermediate Bulk Container

ICS – Incident Command System

LOC – Levels of Concern

LNG – Liquefied Natural Gas

LPG – Liquefied Petroleum Gas

MFL – Magnetic Flux Leakage

MOC – Management of Change

MOPS – Manual Overfill Prevention Systems

NAICS – North American Industry Classification System

NDE – Nondestructive Examination

NFPA – National Fire Protection Association

NPS – Nominal Pipe Size

OCA – Offsite Consequence Analysis

OPP – Overfill Prevention Process

OPS – Overfill Prevention Systems

OSHA – Occupational Safety and Health Administration

OSMRE – Office of Surface Mining Reclamation and Enforcement

P&ID – Process and Instrumentation Diagrams

PHA – Process Hazard Analysis

PHMSA – Pipeline and Hazardous Materials Safety Administration

PPE – Personal Protective Equipment

PSI – Process Safety Information

PSIG – Pounds per Square Inch Gauge

PSR – Pre-Startup Review

RAGAGEP – Recognized and Generally Accepted Good Engineering Practices

RBI – Risk-Based Inspection

RCRA – Resource Conservation and Recovery Act

RMP – Risk Management Plan

RRC – Texas Railroad Commission

SB – Senate Bill

SDS – Safety Data Sheet

SMCRA – Surface Mining Control and Reclamation Act

SOP – Standard Operating Procedure

SPCC – Spill Prevention, Control, and Countermeasure

STI – Steel Tank Institute

TAC – Texas Administrative Code

TCEQ – Texas Commission on Environmental Quality

TSDF – Treatment, Storage, and Disposal Facility

TWC – Texas Water Code

UST – Underground Storage Tank

UT – Ultrasonic Thickness

WPS – Welding Procedure Specifications

List of Definitions

Aboveground Storage Vessel – A vessel made of non-earthen materials that exists entirely above ground level.

Active – A registration status that indicates that a facility has paid all their registration fees for the program and submitted the required registration information. TCEQ will assess registration fees for active registrations.

Allied Chemical Products – A consumer or end-user product manufactured from basic or intermediate chemicals. Examples include drugs, soaps, detergents, paints and agricultural chemical formulations.

Automated Overfill Prevention System – A system that automatically detects and prevents overfills by stopping product flow when a predetermined level is reached.

Bulk Storage Terminal – A site that includes end-of-line pipeline storage terminals (excluding breakout tanks), refinery storage terminals or for-hire, rail, or barge storage terminals.

Cancelled – A registration status indicating that a facility has decommissioned or removed all the registered ASVs. TCEQ will not assess registration fees for cancelled registrations.

Cathodic Protection – A corrosion prevention technique that uses electrical currents or sacrificial anodes to protect metal structures from corrosion.

Certified – An ASV status indicating that the facility has certified that the ASV meets the applicable standards.

Confidential Business Information – Proprietary or sensitive business data that is legally protected from public disclosure.

Decommissioned – An ASV that remains physically present but is no longer subject to ASVS requirements.

Emergency Response Program – A facility's plan and procedures for responding to accidental chemical releases under RMP regulations.

Emergency Operating Procedure – A structured set of instructions for responding to abnormal or emergency conditions.

Existing ASV – An ASV brought in service on or before Sept. 1, 2027.

Expired – A registration status indicating that the certification date for all ASVs on the registration has passed. This means that the ASVs do not have current certifications. TCEQ will continue to assess registration fees for expired registrations.

Facility – A site, tract, or other defined area where one or more ASVs are located and with a single owner and a single operator.

Failure Mode and Effects Analysis – A structured method for identifying potential failure points and their consequences in a system.

Flow-Through Process Vessel – A vessel through which a regulated substance flows as an integral part of a production process. This excludes vessels used for static storage of regulated substances either prior to introduction into the production process, or products/by-products of the production process.

Heated Tanks – Tanks designed to maintain a specific temperature via an integrated heating system.

Intermediate Bulk Container – A portable container designed for intermediate storage and transport of liquids or solids.

Levels of Concern – The threshold concentration of a hazardous substance that could cause adverse effects if released.

Liquefied Natural Gas – A cryogenically cooled liquid form of natural gas, used for transport and storage.

Liquefied Petroleum Gas – A pressurized gas mixture (propane, butane) used for heating, fuel, and industrial applications.

Management of Change – A structured process for evaluating and documenting modifications to equipment, procedures, or personnel that could impact safety.

Manual Overfill Prevention System – A system requiring operator intervention to prevent tank overfilling.

Mechanical Integrity – A structured maintenance program to ensure the continued safe operation of process equipment, including tanks, piping, and safety devices.

Merged – A registration status indicating that a facility merged all the ASVs on this registration into another facility's registration. TCEQ will not assess registration fees for merged registrations.

North American Industry Classification System – Industry classification codes used for regulatory and statistical purposes.

New ASV – An ASV brought in service after Sept. 1, 2027.

Nominal Pipe Size – A standard unit for designating pipe diameter in industrial applications.

Offsite Consequence Analysis – Part of the RMP that models potential release scenarios and their impacts beyond the facility boundary.

Overfill Prevention System – A general term encompassing MOPS and AOPS, designed to prevent liquid overflows in ASVs.

Pending – A registration status indicating that the customer tied to a facility has unpaid fees for the program. The registration status will return to active upon payment of the outstanding fees. TCEQ will continue to assess registration fees for pending registrations.

Petrochemical Plant – A facility engaged in manufacturing basic or intermediate petrochemicals, excluding allied chemical products (e.g., detergents, drugs, soaps, paints, and agricultural chemical formulations).

Petroleum Refinery – A facility that processes crude oil into gasoline, diesel, kerosene, and other fuels.

Pipeline and Hazardous Materials Safety Administration – A federal agency that regulates pipeline transportation of hazardous materials.

Process and Instrumentation Diagram – A schematic drawing showing equipment, piping, instrumentation, and control systems in a facility.

Process Hazard Analysis – A systematic assessment of potential hazards in an industrial process.

Process Safety Information – Documentation of hazardous chemicals, technology, and equipment used in a regulated process.

Pre-Startup Review – A verification process before commissioning a new or modified ASV to ensure compliance with safety requirements.

Recognized And Generally Accepted Good Engineering Practices – Recognized standards and procedures used to ensure the safe design, construction, and operation of equipment and processes.

Registered – An ASV status indicating that an ASV has not been certified yet or has not recertified after 10 years.

Removed – An ASV status indicating that an ASV was completely removed from the facility.

Risk-Based Inspection – An inspection strategy that prioritizes tanks based on risk assessment and failure probability.

Safety Data Sheet (SDS) – OSHA-mandated documentation containing hazard and safety information for chemicals.

Spill Prevention, Control, and Countermeasure – A federally required plan outlining oil spill prevention measures under 40 CFR Part 112.

Stationary Source Siting – The location and design considerations for facilities handling hazardous materials.

Texas Administrative Code – The official collection of rules adopted by Texas state agencies.

Texas Railroad Commission – A regulatory agency overseeing oil, gas, and pipeline safety, with exemptions for ASVs under certain conditions.

Transferred – An ASV status indicating that an individual ASV was transferred from one facility's registration to another facility's registration.

Treatment, Storage, and Disposal Facility – A facility regulated under RCRA for managing hazardous waste.

Underground Storage Tank – A storage tank located below ground, regulated separately from ASVs.

Ultrasonic Thickness Testing – A nondestructive test used to measure metal thickness and detect corrosion.

Welding Procedure Specifications – A documented welding protocol ensuring compliance with API 650 and 653 standards.

Withdrawn – A registration status indicating that a facility registered by mistake. TCEQ will not assess registration fees for withdrawn registrations.

Applicability

30 TAC Chapter 338

30 Texas Administrative Code (TAC) Chapter 338 outlines rules designed to ensure the safety of certain ASVs to protect groundwater and surface water resources in Texas. To determine whether a particular ASV falls under the regulatory requirements of 30 TAC Chapter 338, the following criteria must be met:

- The ASV must have a capacity of 21,000 gallons (500 barrels) or more. This measurement is based on the vessel’s overfill height, which refers to the

maximum volume that the vessel can safely store without risk of overfilling (30 TAC 338.1 – Purpose and Applicability[3]).

- The vessel must be constructed of non-earthen materials, such as concrete, steel, or plastic, which are designed to ensure durability and integrity in above-ground conditions. Additionally, the vessel must be located on or above the ground's surface, as the regulations apply exclusively to storage vessels that are fully visible and not buried or partially submerged (30 TAC 338.2 – Definitions[4]).

- The ASV stores a regulated substance including:

    - Chemicals listed under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), excluding hazardous waste regulated under the Solid Waste Disposal Act.

    - Petroleum products, including crude oil or its fractions that remain liquid under standard temperature and pressure conditions.

    - Other substances specifically designated by TCEQ.

    - Mixtures containing 1% or more by weight of any regulated substance (30 TAC 338.2 – Definitions).

- The ASV must be located at or be a part of one of the following facilities:

    - A Petrochemical Plant: A facility dedicated to the production of petrochemicals, either through continuous or batch processing methods. See the definition for Petrochemical Plant in 30 TAC 338.2 – Definitions. Title 30 TAC 338.2 definition was taken from Title 34 TAC Chapter 3 of the Comptroller of Public Accounts, Tax Administration, Section 3.362, Labor Relating to Increasing Capacity in a Production Unit in a Petrochemical Refinery or Chemical Plant. Facilities or units that produce only allied chemical products may be exempt from ASVS requirements. Facilities or units that manufacture basic or intermediate chemicals remain subject to ASVS requirements, even if other units in the same facility produce finished, allied chemical products. For complexes that include both exempt units that produce allied chemical products, and nonexempt units that produce basic or intermediate chemical units, the exemption will apply at the individual unit level. Exempt units remain exempt, while nonexempt units continue to be subject to ASVS requirements, regardless of their proximity or physical separation at the facility.

    - A Petroleum Refinery: A facility that processes crude oil, unfinished oils, natural gas liquids, or other hydrocarbons into finished petroleum products, such as gasoline, diesel, or lubricants. These facilities also

3. texas-sos.appianportalsgov.com/rules-and-meetings?chapter=338&interface=VIEW_TAC&part=1&title=30
4. texas-sos.appianportalsgov.com/rules-and-meetings?chapter=338&interface=VIEW_TAC&part=1&title=30

provide feedstock to other chemical plants. See the definition for Petrochemical Refinery in 30 TAC 338.2 – Definitions.

- A Bulk Storage Terminal: Facilities that serve as storage points in the supply chain, including pipeline storage terminals, refinery storage terminals, for-hire storage terminals, rail storage terminals, and barge storage terminals. See the definition for Bulk Storage Terminal in 30 TAC 338.2 – Definitions.

- The vessel must not be exempted under the provisions of 30 TAC 338.3.[5] Exemptions are outlined in the next section of this document.

The rules apply to the following:

- Existing ASVs that are already in service on or before Sept. 1, 2027. These ASVs must comply with all applicable standards by that date or the next scheduled maintenance period, but no later than Sept. 1, 2037.

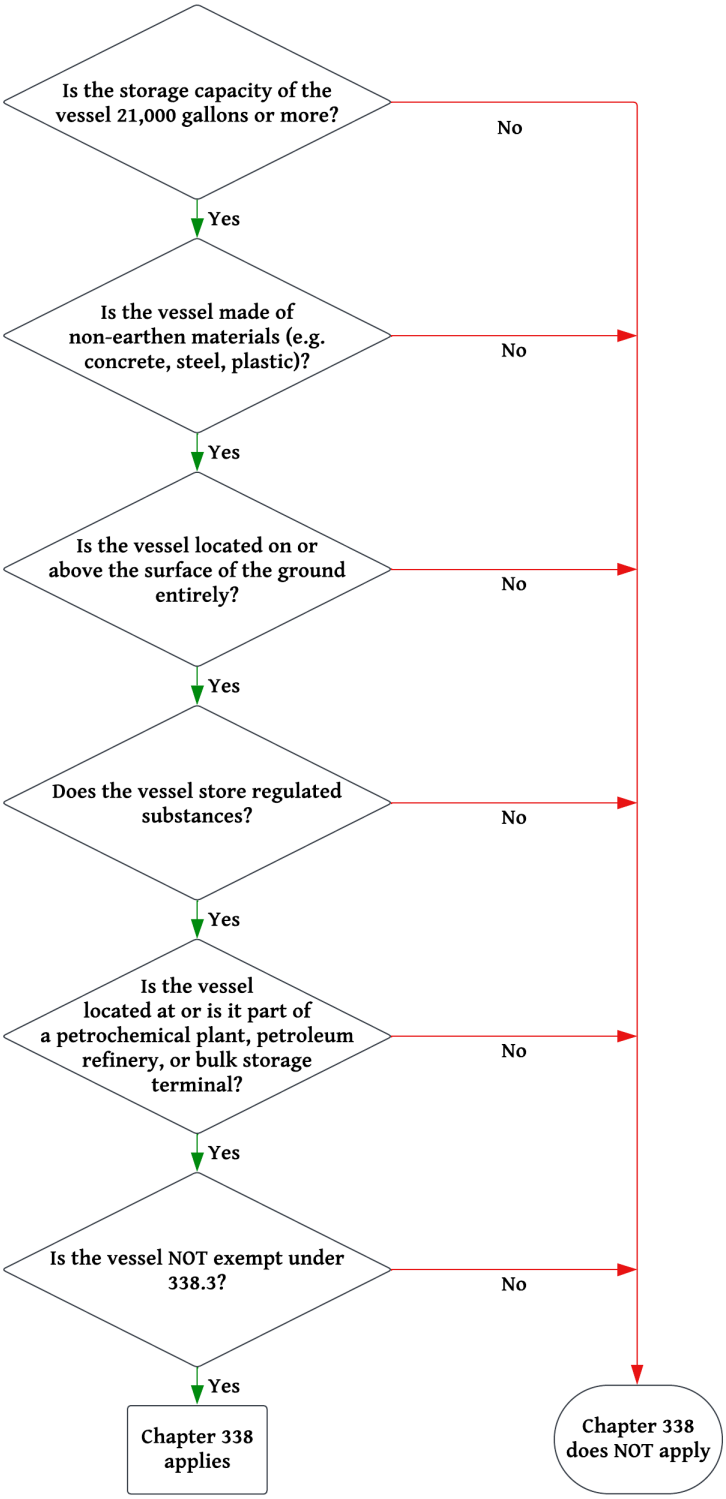
- New or replacement ASVs that are placed into service after Sept. 1, 2027. These ASVs must comply with all applicable standards within 30 days of beginning operations.

By meeting these criteria, an ASV becomes subject to the requirements established in 30 TAC Chapter 338, including mandatory registration, compliance with applicable safety standards, regular inspections, certification, and adherence to recordkeeping protocols. Owners and operators should carefully review these criteria to ensure that their ASVs meet all applicable regulatory requirements to maintain compliance with Texas state law.

NOTE: It is the owner/operator responsibility to determine applicability and non-applicability of vessels. It is not necessary to certify or submit information for ASVs' non-applicability. Facilities will only be required to register ASVs and will not be required to submit proof of exemption for all storage tanks at their facilities. For storage tanks identified during an inspection that are not registered as ASVs, facilities may be required to provide an explanation for the tanks not meeting the definition of ASV in 30 TAC Chapter 338.

5. texas-sos.appianportalsgov.com/rules-and-meetings?chapter=338&interface=VIEW_TAC&part=1&title=30

Figure 1. 30 TAC Chapter 338 Applicability Flowchart



Exemptions

Certain ASVs are exempt from the requirements of 30 TAC Chapter 338, which establishes the ASVS Program. Upon request by the executive director, the owner or operator of a vessel claiming to be exempted under this section must provide appropriate documentation or other information in a timely manner to support that claim.

For further clarification on applicability or any additional information about exemptions described below, owners and operators should feel free to consult with TCEQ at ASVSCompliance@tceq.texas.gov if necessary.

Complete Exemptions

Production or Gathering of Crude Oil or Natural Gas

One key exemption applies to ASVs that are used in, associated with, or related to the production or gathering of crude oil or natural gas. These vessels are not subject to the requirements under 30 TAC Chapter 338.

Understanding the Exemption

The exemption applies specifically to ASVs involved in upstream operations, which include the extraction and initial collection of crude oil or natural gas. This includes:

- Production Activities: The process of extracting crude oil or natural gas from underground formations, including primary, secondary, and tertiary recovery methods.
- Gathering Operations: The collection and transport of crude oil or natural gas from production sites to central facilities, such as processing plants or storage terminals.

Because these ASVs are part of the production and gathering process, they are not required to comply with 30 TAC Chapter 338. However, vessels that store or handle crude oil and petroleum products outside of production and gathering—such as those at refineries, bulk storage terminals, or distribution facilities—do not qualify for this exemption and must comply with ASVS Program requirements.

Examples of Exempt and Nonexempt ASVs

Exempt vessels include but are not limited to:

- Vessels located at a well site that store crude oil before it is transported through a pipeline.
- Vessels used in field separation processes before crude oil is sent for further processing.

Nonexempt vessels include but are not limited to:

- ASVs at refineries or storage terminals where crude oil is processed or distributed.
- ASVs used for storing refined petroleum products, such as gasoline or diesel.

Determining Applicability

Owners and operators should evaluate whether their ASVs are solely used for production or gathering operations. If an ASV is used exclusively for these purposes, it is not subject to 30 TAC Chapter 338. If the ASV is part of midstream or downstream operations, including refining, bulk storage, or distribution, it must comply with ASVS Program requirements.

Stormwater or Wastewater Collection System

Vessels that are part of a stormwater or wastewater collection system are exempt. These vessels are not subject to the requirements under 30 TAC Chapter 338.

Understanding the Exemption

The exemption applies to vessels that are integral to stormwater or wastewater collection, conveyance, treatment, or storage. These vessels are typically used to manage runoff, prevent flooding, or contain and treat wastewater before discharge or further processing. Because these vessels are part of regulated wastewater infrastructure, they are not subject to ASVS Program requirements.

Examples of vessels covered by this exemption include:

- Stormwater Retention and Detention Tanks: Vessels used to temporarily store stormwater runoff to reduce flooding and control discharge rates.
- Wastewater Treatment and Storage Tanks: Vessels used at municipal or industrial wastewater treatment facilities to manage untreated or treated wastewater.
- Lift Station and Equalization Tanks: Vessels that assist in collecting and transferring wastewater through a treatment system.

Examples of Exempt and Nonexempt ASVs

Exempt vessels include but are not limited to:

- Vessels used for stormwater detention and retention at industrial or municipal facilities.
- Vessels that are part of a wastewater treatment system, such as sludge holding tanks or aeration basins.
- Vessels in sanitary sewer systems that temporarily store or transfer wastewater.

Nonexempt vessels include but are not limited to:

- Vessels used for storing industrial process water that is not part of a permitted wastewater system.
- Vessels containing wastewater that are stored for commercial sale or reuse outside of a treatment system.
- Vessels that store chemicals, fuels, or other materials unrelated to stormwater or wastewater collection.

Determining Applicability

Owners and operators should evaluate whether their ASVs are part of a regulated stormwater or wastewater system. If a vessel is used exclusively for stormwater or wastewater collection, conveyance, treatment, or storage, it is not subject to 30 TAC Chapter 338. However, if the ASV is used for purposes outside of a permitted wastewater system, such as storing industrial wastewater for commercial use or containing process water that is not regulated under a wastewater permit, it must comply with ASVS Program requirements.

Flow-Through Process Vessels

Vessels that are flow-through process vessels, including pressure vessels, process vessels, and oil-water separators, are exempt. These vessels are not subject to the requirements under 30 TAC Chapter 338.

Understanding the Exemption

Flow-through process vessels are integral to industrial and manufacturing processes where materials move through the system as part of a production process. Flow-through process vessel is defined in 30 TAC Chapter 338.2 – Definitions.

To qualify for this exemption, a flow-through process vessel must meet the following conditions:

- A regulated substance flows through the vessel as an integral part of a production process such as petroleum refining or petrochemical production.
- The vessel collects material discharged from a feedstock storage vessel, or equipment within the process before the material is transferred to other equipment or storage vessels within the process or to product or by-product storage vessels.
- The primary purpose of the vessel is not static storage; rather, the vessel is integrated into the process.

Because these vessels collect material discharged from a feedstock storage vessel, or equipment within the process before the material is transferred to other equipment or storage vessels within the process or a product or by-product storage vessel function as part of a production process, they are not required to comply with 30 TAC Chapter 338. However, ASVs that store liquids before or after processing—such as feedstock storage vessels or product storage vessels—do not qualify for this exemption and must comply with ASVS Program requirements.

Examples of Exempt and Nonexempt ASVs

Exempt vessels include but are not limited to:

- A separator tank at a refinery that receives crude oil, removes water and solids, and then transfers the treated oil for further refining.
- A reactor vessel at a chemical plant where raw materials mix and undergo a controlled chemical reaction before moving to the next stage.
- A wastewater treatment process tank that temporarily holds and processes industrial wastewater before discharge or reuse.

Nonexempt vessels include but are not limited to:

- A storage tank holding crude oil, refined fuel, or chemicals for extended periods before distribution or sale.
- A bulk storage tank at a terminal or refinery where liquids are held before being transported via pipeline or truck.

Determining Applicability

Owners and operators should evaluate whether their vessels function as flow-through process tanks or as storage vessels. If a tank is integral to an active process and not used for bulk storage, it is exempt from 30 TAC Chapter 338. However, if the tank's primary function is to store liquids before or after processing, it must comply with ASVS Program requirements.

Operating or Designed to Operate Above 0.5 PSIG

Tanks that are operating or designed to operate at pressures greater than 0.5 pounds per square inch gauge (psig) are exempt. These vessels are not subject to the requirements under 30 TAC Chapter 338.

Understanding the Exemption

This exemption applies to tanks that are:

- Designed for pressure greater than 0.5 psig under normal operating conditions.
- Constructed to handle pressurized storage, typically for gases, volatile liquids, or substances requiring containment under elevated pressure.
- Regulated under other applicable safety standards, such as the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code or Occupational Safety and Health Administration (OSHA) regulations for pressure vessels.

Because these tanks are built to withstand higher pressures, they fall outside the scope of 30 TAC Chapter 338, which primarily regulates atmospheric storage tanks and similar vessels operating at or near ambient pressure. However, atmospheric storage tanks with low-pressure blanketing systems or slightly pressurized storage at or below 0.5 psig do not qualify for this exemption and must comply with ASVS Program requirements.

However, normal operating pressure is the deciding factor for determining pressure-based exemption. If the vessel is operated at or below 0.5 psig but is rated above 0.5 psig, it is not exempt from 30 TAC Chapter 338 based solely on pressure consideration. Conversely, a vessel rated and consistently operated above 0.5 psig that periodically drops in pressure to 0.5 psig or below does not lose exemption for this reason.

Examples of Exempt and Nonexempt ASVs

Exempt vessels include but are not limited to:

- A vessel designed to operate in excess of 0.5 psig under normal operating conditions.
- A spherical tank used to store volatile chemicals under pressure greater than 0.5 psig.

Nonexempt Vessels include but are not limited to:

- An atmospheric storage tank with a pressure-relieving vent set below 0.5 psig.
- A low-pressure storage tank with nitrogen blanketing at or below 0.5 psig.
- A conventional crude oil or fuel storage tank operating near ambient pressure.

Determining Applicability

Owners and operators should verify the design pressure rating of their ASVs to determine whether they qualify for this exemption. If a tank is designed for and operates above 0.5 psig, it is not subject to 30 TAC Chapter 338. If a tank operates at or below this threshold, it must comply with ASVS Program requirements.

Heated Tanks

Tanks that are designed to maintain elevated temperatures using an integrated heating system are exempt. These vessels are not subject to the requirements under 30 TAC Chapter 338.

Understanding the Exemption

This exemption applies to ASVs that are specifically designed to maintain elevated temperatures for process or storage purposes. Heated tanks are typically used for:

- Preventing solidification of materials with high viscosity or freezing points.
- Facilitating chemical reactions that require controlled heating.
- Reducing energy costs by maintaining process efficiency in industrial applications.

These tanks include integrated heating systems, such as steam jackets, electric heating elements, or externally applied heat sources, to maintain a specified temperature range. Because they serve a specialized function beyond standard liquid storage, they fall outside the regulatory scope of 30 TAC Chapter 338. However, tanks that store

heated liquids but are not specifically designed for continuous heating do not qualify for this exemption and must comply with ASVS Program requirements.

Examples of Exempt and Nonexempt ASVs

Exempt vessels include but are not limited to:

- A storage tank heated using integrated electric or steam heating to maintain product flow.
- A storage tank heated using an integrated heating system to keep the material in liquid form.
- A processing tank that requires constant heat input to facilitate reactions.

Nonexempt vessels include but are not limited to:

- A standard storage tank that occasionally receives heated liquids but does not maintain an elevated temperature.
- A storage tank where heating is applied intermittently but is not an essential part of the tank's function.
- An insulated tank that passively retains heat but does not have an integrated heating system.

Determining Applicability

Owners and operators should evaluate whether their vessels are specifically designed as heated tanks or merely store heated liquids. If a tank is engineered to maintain elevated temperatures using an external heat source as part of its function, it may be exempt from 30 TAC Chapter 338 as long as the vessel is continuously heated during normal operation of the tank. If heating is only incidental or intermittent, the tank must comply with ASVS Program requirements.

Intermediate Bulk Container or Similar Vessels

Tanks that are designed and used as short-term, transient, or temporary storage of liquids are considered exempt. These intermediate bulk containers (IBCs) or similar vessels are not subject to the requirements under 30 TAC Chapter 338.

Understanding the Exemption

This exemption applies to containers that are designed for temporary or transportable liquid storage, typically used for material handling, distribution, or industrial processes. IBCs and similar vessels are distinct from traditional ASVs because they:

- Have a capacity of less than 10,000 gallons, making them significantly smaller than regulated ASVs.
- Are designed for mobility, often featuring integrated pallets, frames, or lifting points for transport by forklift or other equipment.
- Are used for temporary storage or transport, rather than permanent bulk liquid storage.

Because these vessels are intended for handling, transport, and temporary storage rather than long-term, stationary containment, they are not regulated under 30 TAC Chapter 338. However, permanently installed stationary tanks that function as part of an industrial process or facility storage system do not qualify for this exemption and must comply with ASVS Program requirements.

Examples of Exempt and Nonexempt ASVs

Exempt vessels include but are not limited to:

- Plastic IBCs with metal frames used to transport chemicals or liquid products.
- Totes designed for temporary onsite chemical storage before use in a process.
- Portable stainless steel containers used for hazardous waste collection and disposal.
- Rail cars and tank trucks used for intermediate storage and transport.

Nonexempt vessels include but are not limited to:

- Stationary storage tanks in excess of the 30 TAC Chapter 338 21,000-gallon capacity threshold.
- A permanently installed ASV that was originally an IBC but has been modified for long-term storage.
- A nonmobile container used as part of a fixed industrial process.
- Rail cars and tank trucks that meet all other criteria for 30 TAC Chapter 338 applicability that have been modified to be used for long-term storage.

Determining Applicability

Owners and operators should evaluate whether their containers are designed for transport, temporary storage, or permanent stationary use. If a vessel is an IBC or a similar transportable unit, it is exempt from 30 TAC Chapter 338. If it is permanently installed for bulk storage, it must comply with ASVS Program requirements.

Regulated Under the Surface Mining Control and Reclamation Act

ASVs that are regulated under the Surface Mining Control and Reclamation Act (SMCRA) of 1977 are exempt. These vessels are not subject to the requirements under 30 TAC Chapter 338.

Understanding the Exemption

The SMCRA is a federal law that regulates the environmental impacts of coal mining operations. ASVs used in mining activities covered under SMCRA are already subject to separate regulatory oversight, making additional regulation under 30 TAC Chapter 338 unnecessary.

Because these vessels are already regulated under federal mining laws, they are not required to comply with 30 TAC Chapter 338. However, ASVs used for purposes outside of SMCRA-regulated mining operations, such as fuel storage for non-mining

activities or general industrial use, do not qualify for this exemption and must comply with ASVS Program requirements.

Examples of Exempt and Nonexempt ASVs

Exempt vessels:

- Vessels specifically regulated by SMRCA.

Nonexempt vessels include but are not limited to:

- A storage tank at a coal processing plant that operates outside of SMCRA jurisdiction.
- An ASV at a non-coal mining operation that supports the mining industry but is not exclusively regulated under SMCRA, such as sand, gravel, or limestone extraction.
- A bulk fuel storage tank at a facility that supports the mining industry but is not exclusively regulated under SMCRA.

Determining Applicability

Owners and operators should determine whether their vessels are specifically regulated under SMCRA or if they serve broader industrial purposes. If a vessel is part of a coal mining operation and subject to SMCRA oversight, it is exempt from 30 TAC Chapter 338. If it is not directly regulated under SMCRA, it must comply with ASVS Program requirements.

Regulated Under the Federal Food, Drug and Cosmetic Act

Vessels that are regulated under the Federal Food, Drug, and Cosmetic Act (FDCA) are exempt. These vessels are not subject to the requirements under 30 TAC Chapter 338.

Understanding the Exemption

The FDCA grants regulatory authority to the U.S. Food and Drug Administration (FDA) over facilities involved in the manufacturing, processing, and storage of food, beverages, pharmaceuticals, and cosmetics. Vessels used in these operations are subject to FDA regulations and inspections, ensuring compliance with strict safety and quality standards. This exemption applies to vessels that:

- Store food-grade substances, pharmaceuticals, or cosmetic ingredients in facilities regulated under the FDCA.
- Are part of an FDA-regulated production or storage process regulated by FDCA, ensuring compliance with federal sanitary and safety requirements.
- Are used exclusively in operations covered by FDA oversight, including food processing plants, pharmaceutical manufacturing, and beverage production.

Because these vessels are already subject to federal oversight by the FDA, they are not required to comply with 30 TAC Chapter 338. However, ASVs that store non-FDCA-regulated materials, such as industrial chemicals, petroleum products, or hazardous

substances, do not qualify for this exemption and must comply with ASVS Program requirements.

Examples of Exempt and Nonexempt ASVs

Exempt vessels:

- Vessels specifically regulated by FDCA.

Nonexempt vessels include but are not limited to:

- A storage tank at a facility that produces nonfood industrial chemicals.
- A bulk fuel or lubricant storage tank at a food production facility (since these are not regulated under FDCA).
- A tank storing raw materials at a manufacturing plant that does not fall under FDA jurisdiction.

Determining Applicability

Owners and operators should evaluate whether their vessels are exclusively regulated under the FDCA or if they store materials that fall outside FDA oversight. If a vessel is part of an FDA-regulated facility and used for food, drug, or cosmetic storage, it is exempt from 30 TAC Chapter 338. If it is not subject to FDA regulation, it must comply with ASVS Program requirements.

Management of Leachate, Methane Gas or Methane Gas Condensate

Vessels that are used in the management of leachate, methane gas, or methane gas condensate in landfill applications are exempt. These vessels are not subject to the requirements under 30 TAC Chapter 338.

Understanding the Exemption

This exemption applies to vessels that are part of landfill gas and leachate management systems, which are regulated under federal and state solid waste management regulations. These vessels play a critical role in the collection, treatment, and disposal of landfill-generated liquids and gases. Exemption applies to vessels that:

- Collect and store leachate, which is liquid that drains from or is generated by landfill waste.
- Manage methane gas produced from the decomposition of organic waste in landfills.
- Contain methane gas condensate, a liquid byproduct formed when landfill gas cools and condenses.

Because these vessels are integral to landfill operations and regulated under separate waste management rules, they are not required to comply with 30 TAC Chapter 338. However, ASVs that store other types of industrial waste, fuels, or non-landfill-related liquids do not qualify for this exemption and must comply with ASVS Program requirements.

Examples of Exempt and Nonexempt ASVs

Exempt vessels include but are not limited to:

- Leachate collection tanks at municipal solid waste landfills.
- Methane gas storage vessels used in a landfill gas recovery system.
- Condensate tanks that collect liquids from landfill gas processing equipment.

Nonexempt vessels include but are not limited to:

- Storage tanks holding refined petroleum products or chemicals at landfill facilities.
- Wastewater storage tanks at a landfill that are not directly involved in leachate or gas management.
- Fuel storage tank for landfill operations that are not part of the leachate or gas management system.

Determining Applicability

Owners and operators should determine whether their vessels are specifically used for leachate, methane gas, or methane gas condensate management as part of a landfill operation. If a vessel supports landfill gas or leachate control systems, it is exempt from 30 TAC Chapter 338. If it stores unrelated liquids or fuels, it must comply with ASVS Program requirements.

Storage of Liquefied Petroleum Gas

Vessels used for the storage of liquefied petroleum gas (LPG) are exempt. These vessels are not subject to the under 30 TAC Chapter 338.

Understanding the Exemption

LPG includes propane, butane, and related hydrocarbon gases that are stored and transported in pressurized containers. Exemption applies to vessels that:

- Specifically designed for LPG storage, typically as pressurized vessels.
- Operate at pressures significantly above atmospheric pressure, often in compliance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code.
- Are regulated under separate state and federal safety standards, such as those set by the Railroad Commission of Texas (RRC), the U.S. Department of Transportation (DOT), and the National Fire Protection Association (NFPA) standards for LPG storage.

Because these vessels are already subject to pressure vessel safety standards, they are not required to comply with 30 TAC Chapter 338. However, ASVs that store liquid hydrocarbons at or near atmospheric pressure, such as crude oil or refined fuels, do not qualify for this exemption and must comply with ASVS Program requirements.

Examples of Exempt and Nonexempt ASVs

Exempt vessels include but are not limited to:

- Pressurized LPG hydrocarbon gas storage tanks at an LPG distribution facility.
- Storage spheres designed for high-pressure LPG hydrocarbon containment.
- Bulk LPG storage tanks at a fueling station, constructed to ASME standards.

Nonexempt vessels include but are not limited to:

- A crude oil or refined fuel storage tank that operates at atmospheric pressure.
- A liquefied natural gas (LNG) storage tank, which is regulated separately from LPG.
- A low-pressure storage tank used for petroleum liquids at an industrial facility.

Determining Applicability

Owners and operators should verify whether their vessels are designed for and used exclusively for LPG storage under pressurized conditions. If a vessel stores LPG and meets applicable pressure vessel safety regulations, it is exempt from 30 TAC Chapter 338. If it stores other petroleum products or operates at atmospheric pressure, it must comply with ASVS Program requirements.

Regulated Under the U.S. DOT's Pipeline and Hazardous Materials Safety Administration

Vessels that are regulated under the U.S. Department of Transportation (U.S. DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) are exempt. These vessels are not subject to the requirements under 30 TAC Chapter 338.

Understanding the Exemption

PHMSA regulates the transportation and storage of hazardous materials to ensure safety during handling and transit. This exemption applies to vessels that:

- Are part of PHMSA-regulated pipeline infrastructure, including breakout tanks used to support pipeline operations.
- Store hazardous materials in transportation-related facilities, such as terminals and transfer stations governed by PHMSA regulations.
- Are designed and operated under PHMSA safety standards, including requirements for hazardous material containment, spill prevention, and integrity management.

Because these vessels are already subject to federal oversight under PHMSA regulations, they are not required to comply with 30 TAC Chapter 338. However, ASVs used outside of PHMSA's transportation safety framework, such as bulk storage tanks

at industrial facilities, do not qualify for this exemption and must comply with ASVS Program requirements.

Examples of Exempt and Nonexempt ASVs

Exempt vessels:

- Vessels specifically regulated by PHMSA.

Nonexempt vessels include but are not limited to:

- A bulk fuel storage tank at a refinery that is not part of a PHMSA-regulated transportation system.
- A storage tank at a chemical plant used for long-term onsite storage rather than transportation purposes.
- A tank storing crude oil at a midstream facility that does not meet PHMSA's breakout tank definition.

Determining Applicability

Owners and operators should determine whether their vessels fall under PHMSA's jurisdiction for hazardous materials transportation and pipeline safety. If a vessel is regulated under PHMSA as part of a transportation or pipeline system, it is exempt from 30 TAC Chapter 338. If it is used for non-transportation purposes, it must comply with ASVS Program requirements.

Regulated Under 40 Code of Federal Regulations Part 262, Part 264 and Part 265

Vessels that are regulated under the federal hazardous waste management requirements of 40 Code of Federal Regulations (CFR) Part 262, Part 264, and Part 265 are exempt. These vessels are not subject to the requirements under 30 TAC Chapter 338.

Understanding the Exemption

The U.S. Environmental Protection Agency (EPA) regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA), which is codified in 40 CFR Parts 262, 264, and 265. These regulations establish storage, treatment, and disposal requirements for hazardous waste generators and treatment, storage, and disposal facilities (TSDFs). This exemption applies to vessels that:

- Are used by hazardous waste generators and regulated under 40 CFR Part 262, which governs the storage and management of hazardous waste at the point of generation.
- Are part of a permitted hazardous waste TSDF and regulated under 40 CFR Part 264 (for permitted facilities) or 40 CFR Part 265 (for interim status facilities).
- Store, treat, or manage hazardous waste in compliance with EPA and TCEQ hazardous waste regulations.

Because these vessels are already subject to federal and state hazardous waste regulations, they are not required to comply with 30 TAC Chapter 338. However, ASVs that store nonhazardous substances or are not specifically regulated under these RCRA provisions do not qualify for this exemption and must comply with ASVS Program requirements.

Examples of Exempt and Nonexempt ASVs

Exempt vessels:

- Vessels specifically regulated under the RCRA codified in 40 CFR Parts 262, 264, and 265.

Nonexempt vessels include but are not limited to:

- A storage tank holding nonhazardous industrial wastewater that is not subject to RCRA regulations.
- A fuel storage tank at an industrial site that is not part of a hazardous waste management system.
- A crude oil or refined petroleum product storage tank that is not covered under RCRA hazardous waste rules.

Determining Applicability

Owners and operators should determine whether their vessels fall under EPA's hazardous waste regulations as outlined in 40 CFR Part 262, 264, or 265. If a vessel is regulated as part of a hazardous waste generator facility or a permitted TSDF, it is exempt from 30 TAC Chapter 338. If it stores nonhazardous substances or is not covered by these specific RCRA regulations, it must comply with ASVS Program requirements.

Exemption Request Process

Section 26.3443 of the Texas Water Code specifically states that the commission, in implementing this program, may approve the exemption of specific storage vessels.

To request an exemption under 30 TAC Section 338.3(b), the owner or operator of an affected ASV may submit a written request to the executive director for a specific ASV to be exempted from the requirements of this chapter. The request must provide a demonstration that the ASV presents a sufficiently low risk of floods, storm surges, hurricanes, accidents, fires, explosions, or other hazards so that it does not warrant regulation under this chapter. Until the executive director provides written approval, an ASV remains subject to all applicable requirements, even if an exemption request has been submitted.

All exemption requests under 30 TAC Section 338.3(b) will be subject to a case-by-case review. As with all parts of this exemption request, it is the executive director's role to determine if the owner or operator has provided an adequate demonstration that the ASV presents a sufficiently low risk of any hazards so that it does not warrant regulation under this chapter.

Exemption Request Submittal Process

The request must be submitted in writing and signed and dated by the owner or operator. The request must include:

1. Written concurrence by the site or facility owner, if different from the tank owner.
2. Complete identification information, including:
    a. facility name, location, and Regulated Entity Number (RN) if known
    b. owner's name, address, and telephone number
    c. name, address, and telephone number of owner's/operator's authorized representative
3. Documentation that demonstrates, to the satisfaction of agency staff, that the ASV presents a sufficiently low risk of floods, storm surges, hurricanes, accidents, fires, explosions, or other hazards so that it does not warrant regulation under this chapter.

The written request should be mailed to:

ASVS Program, MC-174
P.O. Box 13087
Austin TX 78711-3087

Alternatively, the owner or operator may attach the written request (in MS Word file or PDF) and email it to ASVSCompliance@tceq.texas.gov.

Standards

30 TAC 338.5[6] provides the applicable performance standards for safety at affected ASVs to protect groundwater and surface water resources from a release in the event of an accident or natural disaster. The selected standards were limited to those listed in Senate Bill 900. Only the critical safety elements in these standards have been included. These standards are taken from national consensus standards and federal regulations. The following sections outline each of the referenced standards in 30 TAC 338.5.

While the definition of ASV presented in 30 TAC 338.2(1) does not directly address the inclusion of ancillary equipment, ASV compliance with a referenced standard in 30 TAC 338.5(b) and (c) often requires consideration of the impact of ancillary equipment on ASV performance. In such a scenario, the ancillary equipment may be evaluated in accordance with the referenced standard to ensure ASV compliance with 30 TAC Chapter 338.

As per normal procedure, the commission established an effective date for implementation (Aug. 24, 2023). If a federal law or regulation listed in 30 TAC 338.5 changes in a way that, by commission evaluation, is deemed to materially conflict with the commission's current implementation of 30 TAC Chapter 338, the commission will evaluate the changes and determine if the new version meets the standards required

6. texas-sos.appianportalsgov.com/rules-and-meetings?chapter=338&interface=VIEW_TAC&part=1&title=30

for 30 TAC Chapter 338. Until such a declaration is provided, the last commission-approved versions of laws and regulations listed in 30 TAC 338.5 will stand.

40 CFR Part 68 Chemical Accident Prevention Provisions

This section explains how the Risk Management Plan (RMP) program relates to 30 TAC Chapter 338 to provide key information to help owners and operators of ASVs ensure compliance with federal accident prevention requirements. The goal of 40 CFR Part 68 and the risk management program it requires is to prevent accidental releases of substances that can cause serious harm to the public and the environment from short-term exposures and to mitigate the severity of releases that occur. In general, 40 CFR Part 68 requires that the owner or operator:

- Develop and implement a risk management program and maintain documentation of the program at the site. The risk management program includes an analysis of the potential offsite consequences of a worst-case accidental release, a five-year accident history, a release prevention program, and emergency planning.
- Develop and submit an RMP to the United States Environmental Protection Agency (EPA). The RMP generally describes the facility's risk management program. The RMP is available to federal, state, and local government agencies and the public, with some restrictions on the availability of the offsite consequence analysis sections of the RMP.
- Implement the risk management program and update their RMPs periodically or when certain process or other changes occur, as required by 40 CFR Part 68.

Additional information can be found in the EPA's Guidance for Facilities on Risk Management Programs (RMP).[7]

Note: For purposes of 30 TAC Chapter 338 compliance, the version of 40 CFR Part 68,[8] as of Aug. 24, 2023, found at this link is the applicable version.

40 CFR 68.10 Applicability

This section explains the general applicability of 40 CFR Part 68, known as the Chemical Accident Prevention Provisions. Under 30 TAC Chapter 338, 40 CFR Part 68 applies to certain ASVs that meet the criteria outlined in federal regulations for chemical accident prevention. These requirements aim to prevent accidental releases of hazardous substances, protect public health, and safeguard the environment.

In addition to the applicability criteria below, the standard identified in this section is only applicable when the vessel meets the definition of an ASV as defined in 30 TAC 338.2.

7. www.epa.gov/rmp/guidance-facilities-risk-management-programs-rmp#general
8. www.ecfr.gov/on/2023-08-24/title-40/chapter-I/subchapter-C/part-68/subpart-C

Criteria for Applicability

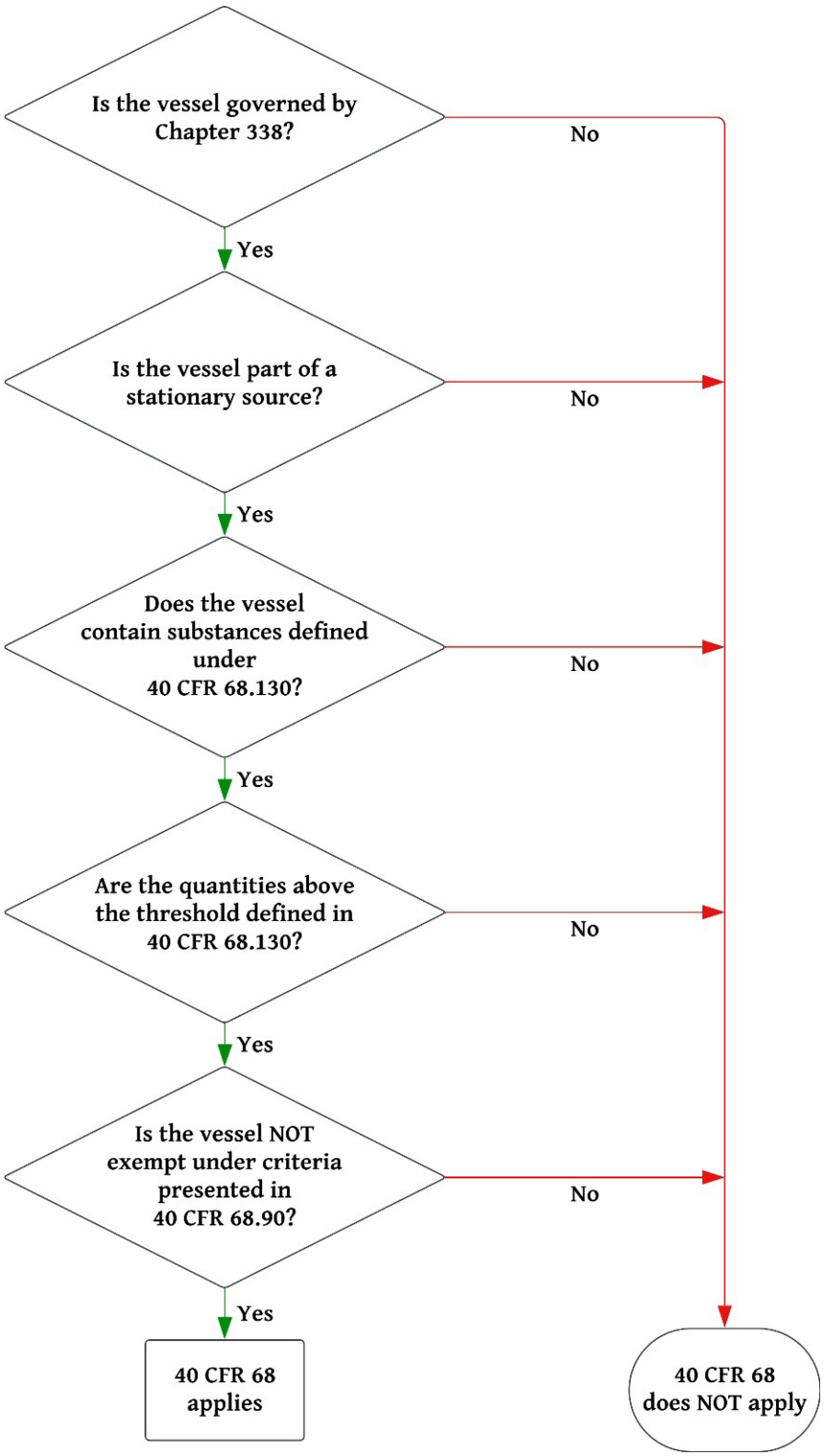
1. **Facility Type and Substance**
   ASVs are subject to 40 CFR Part 68 if they are located at facilities that manage or store regulated substances in quantities that meet or exceed federal threshold levels. Title 30 TAC Chapter 338 mandates compliance with this provision for ASVs storing chemicals that fall under these risk management standards.

2. **Quantity Thresholds**
   To determine applicability, facilities should review the list of regulated substances under 40 CFR 68.130 and identify the corresponding threshold quantities. If the ASV contains a regulated substance at or above the threshold, the facility must comply with the applicable sections of 40 CFR Part 68 as outlined in 30 TAC Chapter 338.

3. **Risk Management Programs**
   Facilities subject to 40 CFR Part 68 must implement an RMP. This includes assessing hazards, developing an RMP, and maintaining necessary safety information. Under 30 TAC Chapter 338, ASVs that meet 40 CFR Part 68 criteria must have the RMP documentation accessible for review during TCEQ inspections and as part of compliance verification.

4. **Emergency Response Requirements**
   Title 30 TAC Chapter 338 requires ASVs subject to 40 CFR Part 68 to adhere to the emergency response provisions outlined in the federal regulation. Facilities must coordinate with local emergency response teams and conduct regular emergency response exercises as stipulated in Subpart E, Emergency Response of Part 68.

Figure 2. 40 CFR Part 68 Applicability Flowchart



40 CFR 68.12 General Requirements

Facilities storing regulated substances above the threshold levels must follow the general requirements outlined in 40 CFR 68.12. These requirements establish that a facility falls under one of three program levels (Program 1, 2, or 3), depending on the facility's risk profile. Each program has different requirements for risk management based on the potential offsite consequences of an accidental release. Owners and operators must determine their program level by assessing their stored substances and processes.

While the requirements in 40 CFR Part 68 Subchapters A, E, G, and H that are included in 30 TAC 338.5 apply to all facilities, the requirements in Subchapters C and D are dependent upon the facility's program level. Specific Program 2 requirements are included in 40 CFR Part 68 Subpart C, and Program 3 requirements are included in 40 CFR Part 68 Subpart D.

In 30 TAC 338.5, specific Part 68 Subpart C Program 2 requirements that are incorporated by reference include: 40 CFR 68.48, Safety Information, 68.50 Hazard Review, and 68.56, Maintenance. The specific Part 68 Subpart D Program 3 requirements that are incorporated by reference include: 40 CFR 68.65, Process Safety Information, 68.67, Process Hazard Analysis, 68.73, Mechanical Integrity, 68.75, Management of Change, and 68.77, Pre-Startup Review.

It is the responsibility of the owner/operator to determine the facility's program level and meet the appropriate Part 68 requirements that apply.

40 CFR 68.15 Management

Per 40 CFR 68.15, owners and operators of ASVs must establish and maintain a management system to oversee the effective implementation of each element of the risk management program.

The management system must address the following:

1. **Designation of Qualified Personnel**
    - Identify and assign qualified persons who are responsible for implementing each aspect of the risk management program. This includes designating specific personnel to oversee individual program elements. These elements may include hazard review, maintenance, safety information, and emergency response.
2. **Defined Responsibility and Accountability**
    - Establish and document clear lines of authority, responsibility, and accountability for risk management program implementation. This includes defining each person's role within the management system, ensuring that responsibilities are assigned. Owners and operators must consider if the structure provides each person with the authority and resources necessary to carry out their assigned responsibilities.

Following this structured approach allows owners and operators to align with 40 CFR 68.15 requirements and necessitated by 30 TAC Chapter 338, ensuring that all risk management program tasks are systematically managed and monitored.

Additional information can be found in *Chapter 5: Management System* of the EPA guidance.[9]

40 CFR 68.48 Safety Information

In compliance with 40 CFR 68.48, owners and operators of Program 2 facilities must compile and maintain up-to-date safety information regarding regulated substances, processes, and equipment associated with ASVs.

Required Safety Information Elements

Owners and operators must include the following safety information:

1. **Safety Data Sheets (SDS):** Safety Data Sheets for each regulated substance must meet the requirements of 29 CFR 1910.1200(g).
2. **Maximum Inventory:** Document the maximum intended inventory of equipment in which regulated substances are stored or processed.
3. **Safe Operating Limits:** Define safe upper and lower limits for temperature, pressure, flow, and composition for each process.
4. **Equipment Specifications:** Maintain specifications for all equipment used in each process.
5. **Design Codes and Standards:** List the codes and standards used to design, build, and operate each process.

Good Engineering Practices

The owner or operator must ensure that each process is designed in compliance with recognized and generally accepted good engineering practices. Compliance may be demonstrated by adherence to relevant federal, state, or industry-specific design codes and standards.

Updating Requirements

Safety information must be updated whenever a major change occurs that would make the information inaccurate.

By ensuring these records are complete and accessible, owners and operators will meet regulatory obligations associated with 30 TAC Chapter 338 and facilitate safe operations within their facilities.

9. www.epa.gov/sites/default/files/2013-11/documents/chap-05-final.pdf

Additional information can be found in *Chapter 6: Prevention Program (Program 2)* of the EPA guidance.[10]

40 CFR 68.50 Hazard Review

Under 40 CFR 68.50, owners and operators of Program 2 facilities must conduct a hazard review to identify and assess potential risks associated with the presence and handling of hazardous substances in ASVs. This review supports preventive measures to reduce the risk of accidental releases and ensures that safety controls align with the nature of the hazards.

Owners and operators are responsible for conducting and documenting a hazard review that includes the following elements:

1. **Identification of Potential Hazards**
    - Assess the potential hazards posed by each regulated substance stored or processed in the ASVs.
    - Include evaluations of scenarios that could lead to accidental releases such as equipment failures, natural disasters, and operational errors.
2. **Process Controls**
    - Document safety features and process controls that reduce the likelihood or impact of potential hazards.
    - Controls may include pressure relief systems, emergency shutdown procedures, and containment structures designed to prevent accidental releases.
3. **Facility-Specific Mitigation Measures**
    - Identify additional, facility-specific measures in place to control and mitigate identified hazards, such as barriers or restricted access zones.
    - Include any modifications or system enhancements made based on previous hazard reviews, safety audits, or incident investigations.

Review Frequency and Updates

Facilities must regularly review and update the hazard assessment to account for:

- **Changes in Operations or Equipment**: Update the review after significant modifications to storage systems, processes, or substances.
- **Periodic Review**: Conduct the hazard review at least every five years to ensure safety measures remain effective and reflect current conditions.

10. www.epa.gov/sites/default/files/2013-11/documents/chap-06-final.pdf

Documentation Requirements

Facilities must maintain detailed records of the hazard review, including:

- **Hazard Review Reports**: These should summarize findings, identify hazards, and implement control measures.
- **Supporting Documentation**: Include documentation of equipment specifications, operational procedures, and control features used to mitigate hazards.

Following these guidelines ensures that facilities comply with 40 CFR Part 68.50, helping prevent accidents through a structured approach to identifying and controlling hazards associated with ASVs.

Additional information can be found in *Chapter 6: Prevention Program (Program 2)* of the EPA guidance.

40 CFR 68.56 Maintenance

Under 40 CFR 68.56, owners and operators of Program 2 facilities that manage ASVs containing regulated substances must implement a maintenance program to ensure the ongoing mechanical integrity of ASVs. This includes establishing and following procedures for routine inspection, maintenance, and repair to prevent equipment failures and accidental releases.

Owners and operators must maintain a structured maintenance program that covers the following:

1. **Written Procedures**
    - Develop and document specific maintenance procedures for ASVs. These procedures should address routine tasks, inspections, and emergency repairs needed to maintain mechanical integrity.
    - Procedures should cover maintenance of critical equipment, such as pressure relief devices, gauges, and containment systems.
2. **Training for Maintenance Personnel**
    - Ensure all maintenance staff (including maintenance contractors) are trained in procedures specific to ASV operations and safety standards.
    - Training should include safe handling of materials, use of personal protective equipment (PPE), and response actions for mechanical failures.

3. **Inspection and Testing**
    - Conduct regular inspections and functional tests on ASVs and associated equipment. This includes periodic testing of safety devices to confirm they operate correctly under emergency conditions.
    - Establish schedules for inspections based on ASV use, conditions, and manufacturer recommendations.

This structured approach ensures that facilities maintain mechanical integrity, adhere to 40 CFR Part 68.56 requirements, and reduce the risk of accidental releases.

Additional information can be found in *Chapter 6: Prevention Program (Program 2)* of the EPA guidance.

40 CFR 68.65 Process Safety Information

Under 40 CFR 68.65, owners and operators of Program 3 facilities must compile and maintain detailed Process Safety Information (PSI) for each process involving regulated substances. This documentation ensures that all safety data is available for hazard assessment, supporting safe design, operation, and maintenance of ASVs.

The PSI required under 40 CFR 68.65 includes:

1. **Hazards of Regulated Substances**
    - Document the physical properties, toxicity, permissible exposure limits, reactivity, and corrosivity of each regulated substance involved in the process.
    - Include information on any chemical incompatibilities, as well as SDSs that meet 29 CFR 1910.1200 requirements.
2. **Process Technology:**
    - Document process technology information, including:
        - Block flow diagrams or simplified process flow diagrams showing major process equipment and process flow.
        - Process chemistry and intended reactions, as well as any associated hazardous by-products.
        - Operating limits for temperature, pressure, flow, or composition, along with the consequences of deviating from these limits.
3. **Process Equipment Design:**
    - Compile information on the design of process equipment, covering:
        - Materials of construction

        - Piping and instrumentation diagrams (P&IDs)
        - Electrical classifications
        - Relief system design and basis
        - Ventilation system design
        - Codes and standards used in design
        - Safety systems
    - Document codes and standards used for the design, construction, and operation of each piece of process equipment.
    - Determine and document PSI and activities for existing equipment designed and constructed in accordance with codes, standards, or practices that are no longer in general use.

Documentation and Accessibility

While not directly related to this section, the owner and operator should ensure that all PSI is documented and readily accessible for use in conducting the Process Hazard Analysis (PHA) as required by 40 CFR 68.67 and for reference by personnel responsible for operating and maintaining the ASV.

This approach ensures compliance with 40 CFR 68.65 and supports the safety and integrity of ASVs by providing a robust knowledge base on process hazards, technology, and equipment requirements.

Additional information can be found in *Chapter 7: Prevention Program (Program 3)* of the EPA guidance.[11]

40 CFR 68.67 Process Hazard Analysis

Under 40 CFR 68.67, a PHA is required for Program 3 facilities to systematically identify, evaluate, and control potential hazards. The PHA is intended to prevent accidental releases by analyzing the processes associated with hazardous substances and implementing appropriate safety measures.

Owners and operators shall perform an initial PHA for each covered ASV. The PHA must be appropriate to the complexity of the process and must effectively identify, evaluate, and control hazards. Owners and operators are required to establish a documented priority order for conducting PHAs based on factors such as:

- The extent of process hazards,
- The number of potentially affected employees,

11. www.epa.gov/sites/default/files/2013-11/documents/chap-07-final.pdf

- The age of the process, and
- The operating history of the process.

Each PHA must be updated and revalidated based on the date of its completion.

Owners and operators shall use one or more of the following methodologies appropriate for evaluating process hazards:

- What-If
- Checklist
- What-If/Checklist
- Hazard and Operability Study (HAZOP)
- Failure Mode and Effects Analysis (FMEA)
- Fault Tree Analysis
- Another appropriate equivalent methodology

The PHA must address the following specific elements:

- **Process Hazards**: Identify hazards within the process.
- **Previous Incidents**: Review any prior incidents with a high potential for catastrophic consequences.
- **Engineering and Administrative Controls**: Evaluate engineering and administrative controls, considering their interrelationships and effectiveness. This includes the application of detection methodologies to provide early warning of releases (e.g., process monitoring, alarms, and detection hardware such as hydrocarbon sensors).
- **Consequences of Control Failures**: Assess the possible consequences of engineering or administrative control failures.
- **Stationary Source Siting**: Consider the location of the process within the facility in relation to other processes or areas.
- **Human Factors**: Address human factors, including the influence of human interaction with the process and equipment.
- **Qualitative Evaluation**: Conduct a qualitative evaluation of the potential safety and health effects from control failures.

The PHA must be conducted by a team with expertise in engineering and process operations. The team must include:

- At least one member with specific knowledge and experience related to the process being analyzed, and
- A team member knowledgeable in the specific PHA methodology selected.

Owners and operators must establish a system to address the findings and recommendations of the PHA team promptly. This system must:

- Ensure recommendations are resolved in a timely manner, with documentation of the resolution,
- Outline actions to be taken with a written schedule for completion,
- Ensure actions are completed as soon as possible, and
- Communicate these actions to employees in operations, maintenance, or other roles that may be affected.

At least every five years after the initial PHA, the PHA must be updated and revalidated by a qualified team to ensure it reflects current process conditions. Updates and revalidations completed in compliance with 29 CFR 1910.119(e) are acceptable for meeting this requirement.

Owners and operators must retain all PHAs, updates, revalidations, and documented resolutions of PHA recommendations for the life of the process. Documentation must be readily available for review and verification of compliance.

This structured approach ensures facilities comply with 40 CFR 68.67 and supports the proactive management of hazards associated with hazardous substances in ASVs.

Additional information can be found in *Chapter 7: Prevention Program (Program 3)* of the EPA guidance.

40 CFR 68.73 Mechanical Integrity

Under 40 CFR 68.73, Program 3 facilities with ASVs must maintain a mechanical integrity program to ensure the safe and reliable operation of ASVs containing hazardous substances. This includes requirements for written procedures, regular inspections, and personnel training, aiming to prevent accidental releases through proactive equipment maintenance.

Mechanical integrity requirements under 40 CFR 68.73 apply to the following types of process equipment:

- Pressure vessels and storage tanks,
- Piping systems, including valves and related components,
- Relief and vent systems and devices,
- Emergency shutdown systems,

- Controls, including monitoring devices, sensors, alarms, and interlocks, and
- Pumps.

Required Mechanical Integrity Program Elements

1. **Written Procedures**
    - Develop and implement written procedures to maintain the integrity of the process equipment listed above. These procedures must outline tasks necessary to ensure safe operation and prevent equipment failures.
2. **Training for Maintenance Personnel**
    - Provide training for employees involved in mechanical integrity activities, covering an overview of each process, its hazards, and the specific procedures related to their job tasks. Training must ensure employees can perform maintenance tasks safely and effectively.
3. **Inspection and Testing**
    - Perform regular inspections and tests on process equipment following recognized and generally accepted good engineering practices.
    - Set inspection and testing frequencies based on manufacturers' recommendations, good engineering practices, and any additional frequency needs indicated by prior operating experience.
    - Document each inspection and test, including:
        - The date of the inspection or test,
        - The name of the person conducting it,
        - An identifier for the equipment inspected or tested,
        - A description of the inspection or test conducted, and
        - The results of the inspection or test.
4. **Equipment Deficiencies**
    - Identify and correct any deficiencies in equipment that fall outside acceptable limits, as defined by PSI under 40 CFR 68.65. Corrective actions should be completed before further use or managed in a safe and timely manner with alternative measures to ensure safe operation.
5. **Quality Assurance**
    - For new construction and equipment, verify that fabrication is suitable for its intended process application.

- Conduct appropriate checks and inspections to confirm that equipment is installed according to design specifications and manufacturer instructions.
- Ensure that maintenance materials, spare parts, and replacement equipment are compatible with and suitable for the process applications in which they will be used.

6. **Documentation Requirements**
   - Maintain records of all written procedures, training records, inspections, tests, and corrective actions related to mechanical integrity activities. These records must be available for review and demonstrate compliance with 40 CFR 68.73.

This structured approach ensures compliance with 40 CFR 68.73, supporting ASV mechanical integrity and operational safety.

Additional information can be found in *Chapter 7: Prevention Program (Program 3)* of the EPA guidance.

40 CFR 68.75 Management of Change

Under 40 CFR 68.75, owners and operators of Program 3 facilities must establish a Management of Change (MOC) program to safely manage modifications to ASVs and associated processes involving hazardous substances. This program ensures that changes are analyzed and documented to prevent accidental releases and maintain compliance with safety standards.

Required Elements of the Management of Change Program

1. **Written Procedures**
   - Develop documented procedures to evaluate changes in chemicals, technology, equipment, and operational procedures.
   - Procedures should assess the potential safety impacts of each modification to ensure no new hazards are introduced.
2. **Information Requirements**
   - The MOC procedures must require that each change be reviewed to consider the following factors:
     - The technical basis for the proposed change,
     - The impact of the change on safety and health,
     - Modifications to operating procedures,

- Necessary time period for the change, and
- Authorization requirements for the change.

3. **Employee Training**
    - Prior to startup, inform and train employees involved in operating the process on changes that affect their job tasks to ensure safe operations.
4. **Update Procedural and Safety Information**
    - Update the relevant PSI (40 CFR 68.65) and operating procedures (40 CFR 68.69) to reflect any changes before resuming operations.

This approach ensures that facilities comply with 40 CFR 68.75 and manage ASV changes systematically to maintain safety and regulatory compliance.

Additional information can be found in *Chapter 7: Prevention Program (Program 3)* (Program 3) of the EPA guidance.

40 CFR 68.77 Pre-Startup Review

Under 40 CFR 68.77, for Program 3 facilities, a Pre-Startup Review (PSR) is required for all new or modified ASVs handling regulated substances. This review is essential to verify that the ASV and associated safety measures comply with design and operational standards before startup, reducing risks of accidental releases due to unverified systems.

Required Elements of the Pre-Startup Review

1. **Completion of Construction and Equipment Checks**
    - Verify that construction and equipment installation are completed in accordance with design specifications.
2. **Safety, Operating and Emergency Procedures**
    - Confirm that PSI (40 CFR 68.65) is complete and accurate for the ASV and its associated processes.
    - Ensure that operating procedures (40 CFR 68.69) are developed and in place for safe startup and ongoing operation of the ASV.
3. **PHA Recommendations Resolution**
    - Confirm that any recommendations resulting from the PHA (40 CFR 68.67) related to the ASV have been resolved or implemented before startup.

4. **Training**
    - Verify that employees involved in the process have been trained on all relevant safety, operating, maintenance, and emergency procedures.

The structured PSR process ensures compliance with 40 CFR 68.77 by verifying safety measures and operational readiness before ASVs are placed in service.

Additional information can be found in *Chapter 7: Prevention Program (Program 3)* of the EPA guidance.

40 CFR Part 68, Subpart E, Emergency Response

Under 40 CFR Part 68, Subpart E, facilities with ASVs containing hazardous substances must establish an Emergency Response Program if they exceed certain thresholds. This program is critical to prepare facilities for effectively managing accidental releases, minimizing risks to public health and the environment.

40 CFR 68.90 Applicability

Under 40 CFR 68.90, the emergency response requirements apply to all stationary sources with Program 2 or Program 3 processes. Facilities must determine whether they will be responding or non-responding as follows:

1. **Responding Facility:**
    - Facilities that choose to respond to accidental releases must comply with 40 CFR 68.93, 68.95, and 68.96 to establish and implement a full emergency response program.
2. **Non-Responding Facility:**
    - Facilities that rely on local emergency responders need not comply with 40 CFR 68.95 if they meet the following conditions:
        - **Toxic Substances:** If storing toxic substances above threshold quantities, the facility must be part of the community emergency response plan developed under 42 U.S.C. 11003.
        - **Flammable Substances:** If only flammable substances are present above threshold quantities, coordinate with the local fire department for response actions.
        - **Notification Mechanisms:** Ensure mechanisms are in place to notify local responders if emergency response is required.
        - **Annual Coordination and Notification Exercises:** Perform annual coordination with local responders as required by 40 CFR 68.93 and conduct annual notification exercises as outlined in 40 CFR 68.96(a).

40 CFR 68.93 Emergency Response Coordination Activities

Under 40 CFR 68.93, all facilities, regardless of their response designation, must coordinate annually with local emergency planning and response organizations to align response plans and ensure readiness.

1. **Coordination Frequency:**
    - Conduct coordination activities at least annually and whenever significant changes occur at the facility, such as updates to the emergency response or action plan, or changes in the community emergency response plan.
2. **Information Provided to Local Responders:**
    - Provide relevant information, including the facility's emergency response plan (if one exists), emergency action plan, updated emergency contact information, and other details necessary for the community emergency response plan.
    - For responding facilities, coordination must also involve setting schedules for tabletop and field exercises as required under 40 CFR 68.96(b).
3. **Documentation of Coordination Activities:**
    - Document all coordination activities with local authorities, including names, contact information of participants, dates, and the nature of activities.
4. **Classified and Restricted Information:**
    - Ensure that the release of any classified or restricted information complies with applicable laws, regulations, or executive orders.

40 CFR 68.95 Emergency Response Programs

Under 40 CFR 68.95, facilities that respond directly to accidental releases must implement an emergency response program that includes the following:

1. **Emergency Response Plan**
    - Develop a written plan that includes:
        - Procedures for informing the public and appropriate agencies about accidental releases,
        - Documentation of necessary first aid and emergency medical treatments, and

        - Procedures for responding to accidental releases, including containment and mitigation actions.

2. **Procedures for Equipment Use and Maintenance**
    - Establish procedures for the use, inspection, testing, and maintenance of emergency response equipment to ensure its readiness for response activities.
3. **Employee Training**
    - Train all employees involved in emergency response on relevant procedures, the use of emergency equipment, and safe response actions.
4. **Plan Review and Updates**
    - Regularly review and update the emergency response plan to reflect facility changes or new information from exercises, coordination activities, and incident investigations. Ensure that employees are informed of any changes.
5. **Alternative Compliance**
    - A written plan that complies with other federal contingency planning regulations or follows the National Response Team's Integrated Contingency Plan Guidance (One Plan) is acceptable if it includes the elements in 40 CFR 68.95(a) and is coordinated with local emergency plans.

40 CFR 68.96 Emergency Response Exercises

Under 40 CFR 68.96, facilities must conduct exercises to validate the effectiveness of their emergency response programs. Requirements include:

1. **Annual Notification Exercises**
    - Perform annual exercises to test emergency notification mechanisms, as specified in 40 CFR 68.90(b)(3) or 68.95(a)(1)(i). Document each notification exercise and maintain records for five years.
2. **Emergency Response Exercise Program**
    - Develop and implement an exercise program, including both field exercises and tabletop exercises, to test the emergency response plan.
        - **Field Exercises**
            - Conduct field exercises involving simulated accidental releases, with consultation to set appropriate frequency. Field exercises should test emergency response plan components, such as notifications, evacuations, medical treatments, communications, and coordination with local responders.

- **Tabletop Exercises**
  - Conduct tabletop exercises at least once every three years, involving discussions on response plan components, notifications, evacuations, coordination, and equipment deployment. Coordinate the frequency with local responders, ensuring at least one exercise by Dec. 21, 2026.

3. **Documentation of Exercises**
   - Within 90 days after each exercise, prepare an evaluation report that includes:
     - A description of the scenario,
     - Participant details and affiliations,
     - An evaluation of the exercise outcomes, including lessons learned and recommended improvements,
     - A schedule for addressing recommendations.
4. **Alternative Exercise Compliance**
   - Meet exercise requirements through federally or locally required exercises, provided they fulfill 40 CFR 68.96(a) and/or 68.96(b) requirements, as appropriate.
   - Response to an actual release may also satisfy exercise requirements if an after-action report, similar to the exercise evaluation, is prepared within 90 days.

This structured approach ensures compliance with 40 CFR Part 68 Subpart E, Emergency Response and enhances a facility's preparedness for emergency situations, thereby minimizing risks associated with hazardous substance releases.

Additional information can be found in *Chapter 8: Emergency Response Program* of the EPA guidelines.[12]

40 CFR Part 68, Subpart G, Risk Management Plan

Under 40 CFR Part 68, Subpart G, facilities with ASVs containing regulated hazardous substances are required to submit a comprehensive RMP. The RMP serves as a structured, regulatory tool designed to reduce the potential for accidental releases and ensure emergency preparedness. It includes reporting elements that assess facility risks, prevention programs, emergency responses, and historical incident data.

12. www.epa.gov/sites/default/files/2013-11/documents/chap-08-final.pdf

1. **Single RMP Submission**
    - Owners and operators must submit a single, consolidated RMP for all covered processes at their facility. This RMP must include the required information from 40 CFR 68.155–68.185 and be submitted in the format specified by the EPA at the time of submission.
2. **Initial RMP Submission Deadlines**
    - The initial RMP submission must be completed by the latest of the following:
        - June 21, 1999;
        - Three years after a substance is listed as regulated under 40 CFR 68.130; or
        - The date when a regulated substance is first present above its threshold quantity at the facility.
3. **RMP Revisions for Pre-2004 Submissions**
    - Facilities that submitted an RMP prior to June 21, 2004, must revise it to add information required by 40 CFR 68.160(b)(6) (emergency contact) and 68.160(b)(14) (contractor information) by June 21, 2004. These revisions should be noted as either corrections to include new data or updates under 40 CFR 68.190.
4. **Ongoing RMP Updates and Corrections**
    - RMPs must be updated and corrected according to the requirements outlined in 40 CFR 68.190 (updates) and 68.195 (corrections).
5. **Classified Information Exclusion**
    - Exclude any classified information from the RMP. Classified information may be provided in a separate annex accessible only to federal or state representatives with appropriate security clearances.
6. **Procedures for Confidential Business Information (CBI)**
    - Follow the procedures outlined in 40 CFR 68.151 and 68.152 if claiming any part of the RMP as CBI.

40 CFR 68.151 Assertion of Claims of Confidential Business Information

1. **Eligibility to Claim CBI**
    - Owners and operators may claim CBI for information that qualifies under 40 CFR 2.301. This claim must demonstrate that the information meets the criteria for protection as trade secrets or proprietary information.
2. **Information Ineligible for CBI Claims**
    - The following types of information cannot be claimed as CBI:
        - Registration data specified in 40 CFR 68.160(b)(1)-(6), (8), (10)-(13), and (21),
        - Offsite consequence analysis data under 40 CFR 68.165(b)(4), (9)-(12),
        - Accident history data under 40 CFR 68.168,
        - Prevention program data required for Program 2 (40 CFR 68.170) and Program 3 (40 CFR 68.175) processes, and
        - Emergency response program data under 40 CFR 68.180.
3. **Submission of CBI Claims**
    - For RMP data claimed as CBI, the following must be submitted:
        - The confidential information in the EPA-specified format,
        - A redacted (sanitized) version of the RMP with "CBI" in place of protected information and generic identifiers substituted for chemical names, and
        - Documentation substantiating the claim for each piece of CBI, as detailed in 40 CFR 68.152.

40 CFR 68.152 Substantiating Claims of Confidential Business Information

1. **CBI Documentation Requirements**
    - Claims of CBI must be substantiated with documentation that meets the criteria set in 40 CFR 2.301, justifying protection as trade secrets or proprietary data.
2. **Marking Requirements for CBI Submissions**
    - Mark CBI information clearly. Any unmarked information will be treated as public and may be disclosed. For substantiations, provide both a sanitized and an unsanitized version.

3. **Certification Statement**
    - A senior official with management responsibility must certify that the submitted CBI claim is accurate, and that disclosure would reveal confidential business information.

40 CFR 68.155 Executive Summary

Under 40 CFR 68.155, the RMP must contain an executive summary that briefly describes:

- Policies for accidental release prevention and emergency response,
- The stationary source and regulated substances managed,
- General and chemical-specific prevention programs,
- The five-year accident history,
- The emergency response program, and
- Planned safety improvements.

40 CFR 68.160 Registration

Under 40 CFR 68.160, complete a single registration form to include in the RMP, covering all regulated substances in the facility's processes.

Include the following registration data:

- Facility information, including name, address, and geographic coordinates,
- Dun and Bradstreet numbers for the facility and corporate parent,
- Contact details for the owner/operator and emergency contacts,
- Details on each covered process, including substances, quantities, North American Industry Classification System (NAICS) codes, and program levels,
- Additional facility details as specified in 40 CFR 68.160(b), including permit numbers, inspection history, and optional information on public inquiries, emergency planning committees, and OSHA program status.

40 CFR 68.165 Offsite Consequence Analysis

1. **Worst-Case and Alternative Release Scenarios**
    - For Program 1 processes, submit one worst-case release scenario. For Program 2 and 3 processes, submit one worst-case scenario each for toxic and flammable substances above threshold quantities, and one alternative scenario for each regulated toxic and flammable substance.

2. **Required Data for Each Scenario**
    - Provide information including chemical names, physical state, release rate, environmental conditions, public and environmental receptors, and passive and active mitigation measures.

40 CFR 68.168 Five-Year Accident History

Under 40 CFR 68.168, include accident data from the past five years for each incident meeting the reporting criteria of 40 CFR 68.42(b), detailing the substance released, impact, and corrective actions taken.

40 CFR 68.170 Prevention Program/Program 2

Under 40 CFR 68.170, for each Program 2 process, provide detailed information, including:

1. NAICS Code: The five- or six-digit NAICS code that most closely corresponds to the process.
2. Chemical Information: The names of the regulated substances involved in the process.
3. Safety Information:
    - Date of the most recent review or revision of safety information.
    - List of federal or state regulations, or industry-specific design codes and standards, used to demonstrate compliance with safety information requirements.
4. Hazard Review:
    - Date of completion of the most recent hazard review or update.
    - Expected date of completion for any changes resulting from the hazard review.
    - Identification of major hazards.
    - Description of process controls in use.
    - Description of mitigation systems in use.
    - Description of monitoring and detection systems in use.
    - Summary of changes since the last hazard review.
5. Operating Procedures: Date of the most recent review or revision of operating procedures.
6. Training: Date of the most recent review or revision of training programs.

7. Maintenance: Date of the most recent review or revision of maintenance procedures.
8. Compliance Audits:
    - Date of the most recent compliance audit.
    - Expected date of completion for any changes resulting from the compliance audit.
9. Incident Investigation:
    - Date of the most recent incident investigation.
    - Expected date of completion for any changes resulting from the incident investigation.

40 CFR 68.175 Prevention Program/Program 3

Under 40 CFR 68.175, for each Program 3 process, provide detailed information, including:

1. NAICS Code: The five- or six-digit NAICS code that most closely corresponds to the process.
2. Chemical Information: The names of the regulated substances involved in the process.
3. Safety Information:
    - Date on which the safety information was last reviewed or revised.
4. Process Hazard Analysis:
    - Date of completion of the most recent PHA or update and the technique used.
    - Expected date of completion for any changes resulting from the PHA.
    - Identification of major hazards.
    - Description of process controls in use.
    - Description of mitigation systems in use.
    - Description of monitoring and detection systems in use.
    - Summary of changes since the last PHA.
    - Inherently safer technology or design measures implemented since the last PHA, if any, and the technology category (substitution, minimization, simplification, and/or moderation).

- Recommendations declined from natural hazard, power loss, and siting hazard evaluations, along with justifications.
- Recommendations declined from safety gaps between codes, standards, or practices to which the process was designed and constructed and the most current version of applicable codes, standards, or practices.

5. Operating Procedures: Date of the most recent review or revision of operating procedures.
6. Training:
    - Date of the most recent review or revision of training programs.
    - Type of training provided (e.g., classroom, classroom plus on-the-job, on-the-job).
    - Type of competency testing used.
7. Maintenance:
    - Date of the most recent review or revision of maintenance procedures.
    - Date of the most recent equipment inspection or test and the equipment inspected or tested.
8. Management of Change:
    - Date of the most recent change that triggered MOC procedures.
    - Date of the most recent review or revision of MOC procedures.
9. Pre-Startup Review: Date of the most recent PSR.
10. Compliance Audits:
    - Date of the most recent compliance audit.
    - Expected date of completion for any changes resulting from the compliance audit.
    - Identification of whether the most recent compliance audit was a third-party audit, pursuant to 40 CFR 68.79 and 68.80.
    - Findings declined from third-party compliance audits, along with justifications.
11. Incident Investigation:
    - Completion date of the most recent incident investigation.
    - Expected date of completion for any changes resulting from the investigation.

12. Employee Participation Plans: Date of the most recent review or revision of employee participation plans.
13. Hot Work Permit Procedures: Date of the most recent review or revision of hot work permit procedures.
14. Contractor Safety Procedures:
    - Date of the most recent review or revision of contractor safety procedures.
    - Date of the most recent evaluation of contractor safety performance.

40 CFR 68.180 Emergency Response Programs and Exercises

Identify local emergency planning organizations and recent coordination dates in the RMP. Specify whether the facility is designated as a responding or non-responding source under 40 CFR 68.90, detailing coordination, notification exercises, and training as required.

40 CFR 68.185 Certification

For Program 1 processes, submit the certification statement required under 40 CFR 68.12(b)(4). For all other processes, submit a signed certification verifying the accuracy and completeness of the RMP contents.

40 CFR 68.190 Updates

Under 40 CFR 68.190, review and update the RMP at least once every five years, or sooner if triggered by:

1. Addition of new regulated substances,
2. Significant process or operational changes,
3. Changes affecting the offsite consequence analysis.

If the facility is no longer covered by RMP requirements, submit a de-registration within six months.

40 CFR 68.195 Required Corrections

Under 40 CFR 68.195, submit accident history updates within six months of a qualifying release to meet 40 CFR 68.42 criteria. Update emergency contact information within one month of any changes, ensuring the RMP reflects current contact details. This structured approach to developing, submitting, and maintaining the RMP ensures compliance with 40 CFR Part 68 Subpart G, RMP requirements, supporting facility safety and transparency regarding potential risks.

Additional information can be found in *Chapter 9: Risk Management Plan* of the EPA guidance.[13]

40 CFR Part 68, Subpart H, Other Requirements

Under 40 CFR Part 68, Subpart H, Other Requirements, additional requirements are outlined to ensure that facilities handling hazardous substances maintain transparency, accessibility, and compliance through recordkeeping, public information availability, permitting, and audit processes.

40 CFR 68.200 Recordkeeping

Under 40 CFR 68.200, owners and operators of ASVs subject to 40 CFR Part 68 must maintain records supporting the implementation of their RMP for a minimum of five years. This includes any documentation related to risk management, process safety, and emergency response as required by 40 CFR Part 68, unless otherwise specified in Subpart D, Program 3 Prevention Program.

40 CFR 68.210 Availability of Information to the Public

The owner or operator must make the RMP available to the public as required by 42 U.S.C. 7414(c) and according to procedures in 40 CFR Part 1400. This includes ensuring public access to general RMP information. If an RMP-reportable accident with an offsite impact occurs, the owner or operator must hold a public meeting to disclose information as specified under 68.42(b). This meeting must be held within 90 days following the accident. Any classified or restricted information is protected by applicable federal laws and regulations governing its disclosure. Access to classified or restricted information will be controlled per these laws and may require security clearance.

40 CFR 68.215 Permit Content and Air Permitting Authority or Designated Agency Requirements

1. **Permit Requirements for 40 CFR Part 70 or 71 Sources**
    - For any stationary source subject to both 40 CFR Part 68 and 40 CFR Part 70 or 71 (air permitting programs), the air permit must include:
        - A statement that 40 CFR Part 68 applies to the source, and
        - Conditions requiring the owner or operator to submit:
            - A compliance schedule for meeting 40 CFR Part 68 requirements, or
            - A compliance certification confirming adherence to 40 CFR Part 68, including RMP registration and submission.

13. www.epa.gov/sites/default/files/2013-11/documents/chap-09-final.pdf

2. **Additional Information Requests**
    - Owners and operators must provide any additional information requested by the air permitting authority to demonstrate compliance with 40 CFR Part 68.
3. **Permit Revisions for RMP Inclusion**
    - If a permit was issued before the RMP submission deadline and does not contain 40 CFR Part 68 conditions, the owner/operator or the permitting authority must initiate a permit revision to include these terms, following 40 CFR 70.7 or 71.7 procedures.
4. **Delegation of Authority**
    - States may delegate 40 CFR Part 68 enforcement authority to a state or local agency. Such delegation must be documented, and the state may also enter into an agreement with the EPA for implementation and enforcement.
5. **Verification and Enforcement by Permitting Authority or Designated Agency**
    - The permitting authority or designated agency must:
        - Verify that the owner/operator has registered and submitted an RMP,
        - Confirm that the owner/operator has submitted compliance certification or a compliance schedule, and
        - Conduct checks, audits, reviews, or inspections to ensure compliance, initiating enforcement as necessary.

40 CFR 68.220 Audits

Under 40 CFR 68.220, the implementing agency is required to periodically audit RMPs to ensure compliance with 40 CFR Part 68 Subpart G requirements and may require revisions as necessary to meet regulatory standards.

1. **Audit Selection Criteria**
    - The implementing agency may select sources for audits based on factors such as:
        - The facility's accident history,
        - Accident trends within the industry,
        - Quantities of regulated substances on site,
        - Proximity to public and environmental receptors,
        - The presence of specific regulated substances,
        - Hazards identified in the RMP, or

- A random selection process.

2. **Audit Exemptions**
    - Facilities with a Star or Merit ranking in OSHA's Voluntary Protection Program are exempt from audits based on industry trends or random selection.
3. **Access to Facility and Documentation**
    - During an audit, the implementing agency has the right to access the facility, supporting documents, and any areas where an accidental release could occur.
4. **Preliminary Determination of Revisions**
    - Following an audit, the implementing agency may issue a preliminary determination requiring RMP revisions. This determination must explain the basis for the revisions, reference industry standards as applicable, and include a timeline for implementation.
5. **Facility Response to Preliminary Determination**
    - The owner/operator must respond to the preliminary determination within 90 days (or a shorter time if specified). Responses should confirm acceptance of the revisions with the proposed timeline or provide reasons for rejecting specific revisions, along with proposed alternatives if applicable.
6. **Final Determination of Revisions**
    - After reviewing the facility's response, the implementing agency may issue a final determination. This document may accept or modify the preliminary revisions or incorporate substitute revisions from the facility's response. Any revisions rejected by the agency must be accompanied by an explanation.
7. **Compliance with Final Determination**
    - The owner/operator has 30 days after completing the final determination's implementation schedule to submit the revised RMP, ensuring compliance with 40 CFR Part 68 Subpart G requirements. Failure to submit within this timeframe is considered a violation of 40 CFR Part 68.
8. **Public Access to Audit Documents:**
    - The public may access preliminary determinations, facility responses, and final determinations in accordance with 40 CFR 68.210.

9. **EPA and State Authority**
    - This section does not limit the authority of the EPA or states to enforce, investigate, or gather information under the Clean Air Act.

This structured approach under 40 CFR Part 68, Subpart H, Other Requirements ensures that facilities maintain robust records, provide transparency, comply with permit requirements, and continually improve safety practices through regular audits.

40 CFR Part 112 Oil Pollution Prevention

Under 40 CFR Part 112, owners and operators with ASVs containing oil above certain thresholds must implement prevention and response measures to avoid oil discharges that could harm navigable waters or adjoining shorelines. This section includes requirements for developing Spill Prevention, Control, and Countermeasure (SPCC) Plans, preparing Facility Response Plans (FRPs), and conducting ongoing training and testing. These plans are vital for mitigating risks and ensuring environmental protection.

Note: As of Aug. 24, 2023, 40 CFR Part 112,[14] is the applicable version with respect to 30 TAC Chapter 338.

40 CFR 112.1 Applicability

Under 40 CFR Part 112, 30 TAC Chapter 338 applies to owners or operators of non-transportation-related onshore facilities with the capacity to discharge oil in harmful quantities, as defined by the Clean Water Act, into or upon navigable waters of the United States or adjoining shorelines. These criteria apply specifically to facilities with ASVs that meet the following thresholds and conditions.

In addition to the applicability criteria below, the standard identified in this section is only applicable when the vessel meets the definition of an ASV as defined in 30 TAC 338.2.

1. **Scope of Coverage**: 40 CFR Part 112 applies to non-transportation-related facilities, including oil storage, processing, and handling operations that could discharge oil into navigable waters or adjoining shorelines. This regulation also covers facilities potentially impacting waters within the contiguous zone and natural resources protected by U.S. federal authority.
2. **Location and Discharge Potential**: 40 CFR Part 112 applies to any facility where oil discharges could reasonably be expected to reach U.S. waters. The assessment is based on the facility's natural geographic location, proximity to water bodies, and land contour, excluding artificial containment measures.

14. www.ecfr.gov/on/2023-08-24/title-40/chapter-I/subchapter-D/part-112?toc=1

3. **Types of Oil Storage Containers**: Facilities regulated under 40 CFR Part 112 must maintain SPCC Plans if they store oil in the following container types:
    - **Aboveground Containers**: Aboveground containers with capacities that meet SPCC thresholds are covered under 40 CFR Part 112.
    - **Completely Buried Tanks**: Buried storage tanks, as defined in 40 CFR 112.2, fall under 40 CFR Part 112 if they contain oil and are not otherwise regulated under specific federal underground storage tank (UST) regulations. **NOTE: Such a vessel would be outside the scope of 30 TAC Chapter 338.**
    - **Temporary or Standby Storage**: Containers used for standby, seasonal, or temporary storage are regulated if they meet the SPCC applicability criteria.
    - **Bunkered and Partially Buried Tanks**: Tanks partially buried or housed in vaults, also referred to as bunkered tanks, are considered aboveground for SPCC regulatory purposes. **NOTE: Such a vessel would be outside the scope of 30 TAC Chapter 338.**
4. **Federal Government Compliance:** Section 313 of the Clean Water Act (CWA) extends SPCC requirements to federal departments, agencies, and instrumentalities to the same extent as private entities. This means federal facilities housing oil in aboveground containers that meet 40 CFR Part 112 criteria must comply with SPCC standards, ensuring consistent spill prevention practices across both private and government-owned facilities.
5. **Exemptions from SPCC Requirements:** Certain facilities, equipment, and operations are exempt from 40 CFR Part 112 requirements based on specific factors, including facility location, capacity, and regulatory jurisdiction. These exemptions, recognized under 30 TAC Chapter 338 where applicable, include:
    - **Remote Facilities**: Facilities with no reasonable potential to discharge oil into navigable waters or shorelines due to geographic features may qualify for an exemption. The determination must exclude artificial containment structures like dikes or berms.
    - **DOT-Regulated Facilities**: Equipment or facilities under the jurisdiction of the Department of Transportation (DOT) or Department of the Interior (DOI), such as transportation-related pipelines or offshore drilling facilities, are exempt from SPCC oversight.
    - **Small-Capacity Facilities**: Facilities meeting both of the following capacity thresholds may be exempt from SPCC requirements:

1. **Buried Storage Capacity of 42,000 Gallons or Less**: This exemption applies if the total completely buried storage capacity is 42,000 gallons or less, excluding USTs regulated under 40 CFR Part 280 and tanks for emergency diesel generators. **NOTE: As this is a facility-wide application and not vessel specific, this will not provide exemption for 30 TAC Chapter 338 regulated ASVs.**
2. **Aggregate Aboveground Storage Capacity of 1,320 Gallons or Less**: Facilities with an aggregate aboveground capacity below 1,320 gallons of oil are exempt, provided each container is over 55 gallons and meets SPCC exclusion criteria (e.g., permanently closed containers, motive power containers, heating oil for single-family residences).

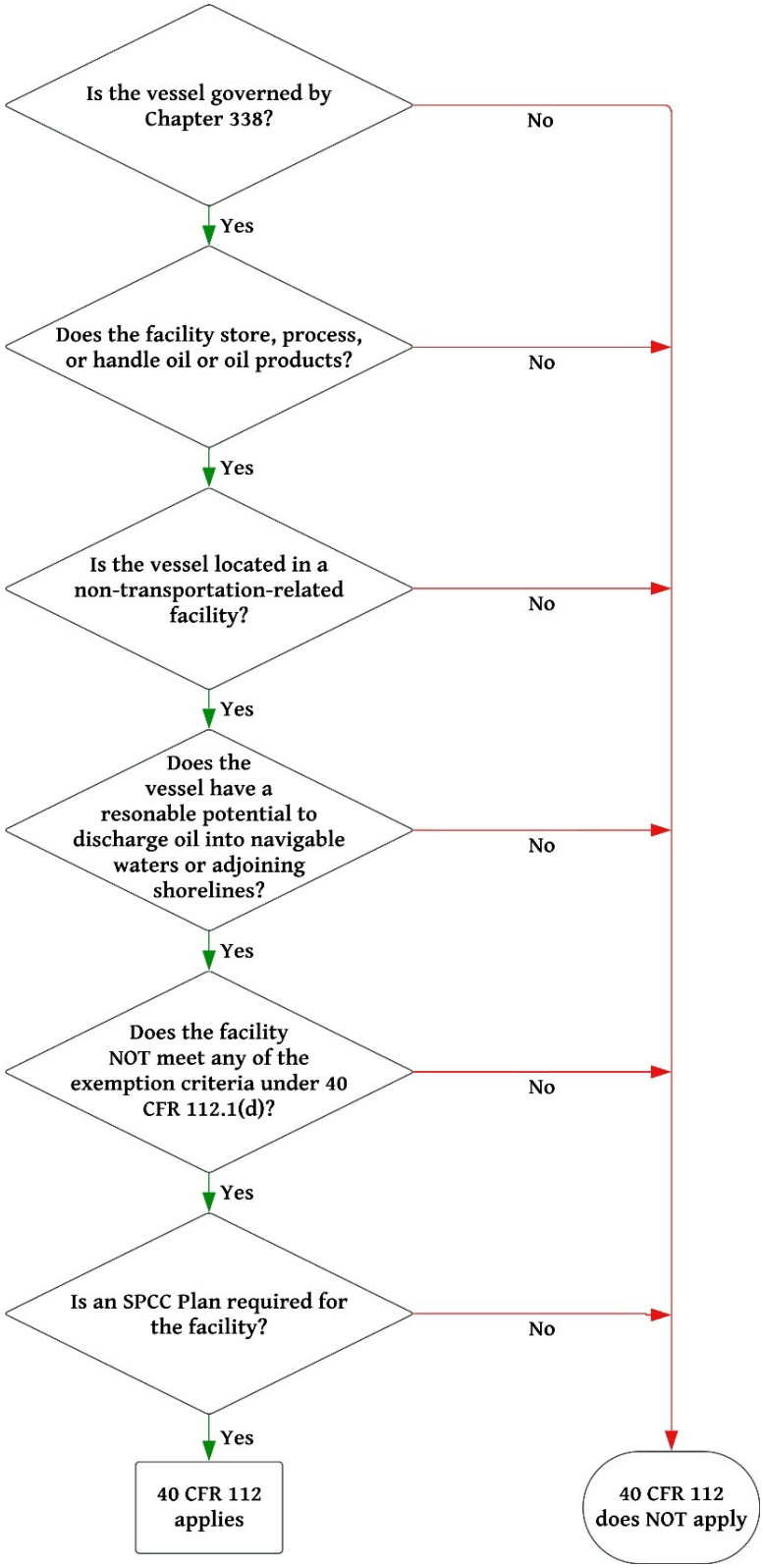
- **Additional Specific Exemptions**: 40 CFR Part 112 also exempts certain containers from SPCC regulations, including:
  1. Containers with capacities under 55 gallons,
  2. Heating oil containers used exclusively at single-family residences,
  3. Pesticide application and related mix containers,
  4. Milk and milk product containers,
  5. Intra-facility gathering lines regulated by DOT.

6. **SPCC Plan Requirements:** Facilities subject to SPCC under 40 CFR Part 112 are required to prepare and implement SPCC Plans. These plans are designed to prevent oil discharges, outlining facility-specific measures for spill control, containment, and emergency response. Key SPCC Plan elements include:
   - **Spill Control and Prevention**: SPCC Plans must detail measures to prevent spills, including secondary containment, overfill protection, and appropriate emergency response procedures.
   - **Alignment with Other Regulations**: SPCC Plans should complement other applicable regulations, including fire safety, pollution prevention, and emergency preparedness requirements. Compliance with an SPCC Plan does not exempt a facility from additional environmental or safety standards.
7. **EPA Discretionary Authority:** 40 CFR 112.1(f) provides the EPA Regional Administrator with discretionary authority to require SPCC compliance for certain facilities that might otherwise be exempt. This authority ensures that facilities posing significant spill risks to water resources are subject to SPCC requirements. Key provisions include:

- **Notice of SPCC Requirement**: The Regional Administrator may issue a written notice requiring the facility to prepare an SPCC Plan, with specific reasons for the determination.
- **Facility Response and Consultation**: Facility owners have 30 days to respond and may consult with the EPA to provide additional information or request a review.
- **Final Determination and Compliance**: Following consultation, the Regional Administrator makes a final determination. If an SPCC Plan is required, the facility must implement it within one year. Facility owners have the right to appeal this determination to the EPA Administrator.
- The assessment should be documented and based on site-specific conditions, including the likelihood that oil, if discharged, would migrate to nearby water sources due to facility layout or topography.[15]

15. www.ecfr.gov/on/2023-08-24/title-40/section-112.1

Figure 3. 40 CFR 112 Applicability Flowchart



40 CFR 112.3 Requirement to Prepare and Implement a Spill Prevention, Control, and Countermeasure Plan

SPCC Plan Preparation and Implementation

ASV owners or operators at regulated facilities must develop and implement an SPCC Plan according to 40 CFR 112.7 and any other relevant sections of 40 CFR Part 112.

General Requirement

All facilities covered by this regulation, including onshore and offshore facilities, must prepare a written SPCC Plan that outlines procedures for spill prevention and response.

Certification Requirements

Professional Engineer (PE) Certification: Except as provided for qualified facilities, an SPCC Plan must be reviewed and certified by a licensed PE, to meet requirements, who attests that:

- The PE is familiar with 40 CFR Part 112 requirements.
- The PE or their agent has visited and examined the facility.
- The Plan is prepared in accordance with good engineering practices and meets industry standards.
- Required inspection and testing procedures are established.
- The Plan is adequate for the facility's spill prevention needs.

Self-Certification for Qualified Facilities

Qualified facilities may be eligible for self-certification under 40 CFR 112.6 if they meet Tier I or Tier II qualified facility criteria:

Tier I qualified facility criteria are as follows:

- Aggregate aboveground oil storage capacity of 10,000 U.S. gallons or less.
- No single discharge exceeding 1,000 U.S. gallons or two discharges each exceeding 42 U.S. gallons within any 12-month period in the three years prior to Plan certification or since becoming subject to Part 112 regulations if the facility has been in operation for less than three years.
- No individual aboveground oil storage container with a capacity greater than 5,000 U.S. gallons.

Tier II qualified facility criteria are as follows:

- Aggregate aboveground oil storage capacity of 10,000 U.S. gallons or less.

- No single discharge exceeding 1,000 U.S. gallons or two discharges each exceeding 42 U.S. gallons within any 12-month period in the three years prior to Plan certification or since becoming subject to Part 112 regulations if the facility has been in operation for less than three years.

- One or more individual aboveground oil storage containers with a capacity greater than 5,000 U.S. gallons.

Plan Accessibility and Review Requirements

- **Plan Availability**: The SPCC Plan must be kept at the facility if attended at least four hours per day or at the nearest field office otherwise.

- **Plan Review by EPA Regional Administrator**: The Plan must be available for on-site review by the EPA Regional Administrator upon request.

- **Five-Year Review and Amendments**: The owner or operator must review the SPCC Plan every five years and amend it to include proven spill prevention technology if it significantly reduces the risk of a discharge.

Extensions of Time

The EPA Regional Administrator may grant extensions for Plan preparation or amendments if there are delays in personnel availability, construction, or equipment delivery beyond the facility's control. Extension requests must include explanations of the delay, mitigation steps, and a proposed timeline.

Additional information can be found in the EPA's *Spill Prevention, Control, and Countermeasure (SPCC) Regulation: A Facility Owner/Operator's Guide to Oil Pollution Prevention.*[16]

40 CFR 112.6 Qualified Facilities Plan Requirements

Preparation and Self-Certification of Plan (Tier I)

Owners or operators of Tier I qualified facilities have three options:

- Complete and self-certify the SPCC Plan template provided in Appendix G of the regulation.

- Prepare and implement a Plan meeting the requirements of paragraph (b) for Tier II facilities.

- Prepare and implement a Plan in accordance with the general requirements of 40 CFR part 112.7 and applicable subparts B and C, including certification by a Professional Engineer (PE) as required under 40 CFR part 112.3(d).

16. www.epa.gov/sites/default/files/documents/spccbluebroch.pdf

When self-certifying, the owner/operator of a Tier I qualified facility must certify that:

- They are familiar with the requirements of 40 CFR part 112.
- They visited and examined the facility.
- The Plan has been prepared in accordance with accepted and sound industry practices and standards.
- Procedures for required inspections and testing have been established.
- They will fully implement the Plan.
- The facility meets the qualification criteria in 40 CFR part 112.3(g)(1).
- The Plan does not deviate from any requirement of this part as allowed by 40 CFR part 112.7(a)(2) and Section 112.7(d) or include measures pursuant to 40 CFR part 112.9(c)(6) for produced water containers and any associated piping.
- The Plan and individuals responsible for implementing the Plan have the full approval of management, and the facility owner/operator has committed the necessary resources to fully implement the Plan.

Technical Amendments (Tier I)

Any technical amendments to the Plan due to changes in facility design, construction, operation, or maintenance affecting its potential for a discharge as described in Section 112.1(b) must be certified in accordance with the above requirements. If such changes result in the facility no longer meeting Tier I criteria (e.g., an individual oil storage container exceeds 5,000 U.S. gallons), the owner or operator must:

- Prepare and implement a Plan in accordance with Section 112.6(b) if meeting Tier II criteria.
- Prepare and implement a Plan in accordance with the general requirements of Section 112.7 and applicable subparts B and C, including PE certification as required under Section 112.3(d).

Preparation and Self-Certification of Plan (Tier II)

The owner/operator of a Tier II qualified facility may self-certify their SPCC Plan, provided they certify that:

- They are familiar with the requirements of 40 CFR part 112.
- They have visited and examined the facility.
- The Plan has been prepared in accordance with accepted and sound industry practices and standards, and with the requirements of this part.

- Procedures for required inspections and testing have been established.
- They will fully implement the Plan.
- The facility meets the qualification criteria set forth under 40 CFR part 112.3(g)(2).
- The Plan does not deviate from any requirement of this part as allowed by 40 CFR part 112.7(a)(2) and Section 112.7(d) or include measures pursuant to 40 CFR part 112.9(c)(6) for produced water containers and any associated piping, except as provided in paragraph 40 CFR part 112.7(b)(3).
- The Plan and individuals responsible for implementing the Plan have the full approval of management, and the facility owner/operator has committed the necessary resources to fully implement the Plan.

Technical Amendments (Tier II)

If there is a change in the facility design, construction, operation, or maintenance that affects its potential for a discharge as described in 40 CFR part 112.1(b), the owner or operator must certify any technical amendments to the Plan. However, if a PE certified a portion of the Plan and the technical amendment affects this portion, the amended provisions must be certified by a PE.

If the change causes the facility to exceed 10,000 U.S. gallons in aggregate aboveground storage capacity, thereby disqualifying it from Tier II status, the owner or operator must, within six months, prepare and implement a Plan in accordance with the general requirements of 40 CFR part 112.7 and applicable subparts B and C, including PE certification as required under 40 CFR part 112.3(d).

Applicable Requirements (Tier II)

The self-certified SPCC Plan must comply with Section 112.7 and applicable subparts B and C. However, the Plan may not include alternate methods providing environmental equivalence pursuant to Section 112.7(a)(2), unless each alternate method has been reviewed and certified in writing by a PE.

Professional Engineer Certification of Portions of a Qualified Facility's Plan (Tier II)

While a Tier II qualified facility owner or operator may self-certify the SPCC Plan, certain deviations or measures require PE certification:

- If the Plan includes alternate methods providing environmental equivalence as allowed under Section 112.7(a)(2), a PE must review and certify these methods.
- If the Plan includes determinations that secondary containment is impracticable and establishes alternative measures as allowed under Section 112.7(d), a PE must review and certify these determinations and measures.

- In such cases, the PE must certify that:
    - They are familiar with the requirements of this part.
    - They have visited and examined the facility.
    - The Plan has been prepared in accordance with accepted and sound industry practices and standards.
    - Procedures for required inspections and testing have been established.
    - The Plan is adequate for the facility.

This certification must be in accordance with Section 112.3(d)(1)(vi) and include the PE's registration number, state, and signature.

Alternative Qualified Facility Eligibility Criteria for an Oil Production Facility (Tier II)

For an oil production facility, the criterion in Section 112.3(g)(2)(ii) concerning discharge history is satisfied if the facility has had no single discharge as described in Section 112.1(b) exceeding 1,000 U.S. gallons or no two discharges each exceeding 42 U.S. gallons within any twelve-month period in the three years prior to Plan certification, or since becoming subject to part 112 if the facility has been in operation for less than three years.

Additional information can be found in the EPA's *Spill Prevention, Control, and Countermeasure (SPCC) Regulation: A Facility Owner/Operator's Guide to Oil Pollution Prevention.*

40 CFR 112.7 General Requirements for Spill Prevention, Control, and Countermeasure Plans

Under 40 CFR 112.7, facilities storing oil that may discharge into navigable waters or shorelines must develop an SPCC Plan. This plan should outline practices for spill prevention, containment, and response, using good engineering practices, and must receive full approval from facility management. The SPCC Plan should demonstrate a commitment of resources to ensure that prevention and response measures can be implemented effectively.

Key SPCC Plan Criteria

Plan Preparation

The SPCC Plan must be prepared in accordance with good engineering practices and approved by management with the authority to commit necessary resources. The Plan must be in writing. If the sequence specified in this section is not followed, an equivalent Plan acceptable to the EPA Regional Administrator must be prepared, supplemented with a section cross-referencing the location of requirements listed in this part and the equivalent requirements in the other prevention plan.

Detailed Facility Diagram and Layout

- Include a clear, labeled diagram that shows the facility layout and locations of all oil storage containers, transfer stations, and connecting pipes.
- Mark each container with its contents and storage capacity. Any underground tanks and intra-facility gathering lines exempt from Part 112 must be labeled as "exempt" per 40 CFR 112.1(d)(4) and 112.1(d)(11).
- Container Capacities:
    - For fixed storage containers, specify the exact type of oil and its capacity.
    - For mobile or portable containers, either list each container with its type of oil and capacity or provide an estimate of the total capacity, types of oil, and anticipated number of containers.

Discharge Prevention and Control Measures

- Outline procedures to prevent spills during routine oil handling operations, such as loading, unloading, and facility transfers. Specify any safety practices designed to prevent overfills, leaks, or spills.
- Describe secondary containment structures, such as dikes, berms, and retaining walls, to ensure that spills do not escape the containment area before cleanup. These structures should be impervious to oil and built to handle potential discharge volumes.
- Discharge Controls and Countermeasures:
    - Identify the discharge control measures and response actions to contain spills, including on-site capabilities and external contractors, if applicable.
    - Provide details on containment and response for different spill scenarios, ensuring each component is adequate for the expected discharge.

Methods for Disposal of Recovered Materials

Specify the procedures and legal requirements for disposal of recovered materials following a discharge, ensuring compliance with local, state, and federal environmental regulations.

Emergency Contact Information

Include a list of critical contacts, such as the facility response coordinator, contracted cleanup resources, and relevant federal, state, and local agencies that may need notification during a discharge event.

Discharge Reporting Procedures

Outline clear steps for reporting discharges, including:

- Exact location and address of the facility, the type and quantity of oil discharged, and the affected media.
- An estimate of the discharge amount, cause, and source.
- Actions taken to stop, contain, and mitigate the discharge.

Response Procedures in Case of Discharge

Organize and format response procedures for easy accessibility during an emergency. Attach supporting materials, such as checklists or detailed steps, in appendices to ensure immediate usability.

Predicted Discharges From Equipment Failure

Include a prediction of the types of equipment failures that could result in a discharge, such as overflows, leaks, or ruptures. For each type of failure:

- Provide estimates of discharge quantity, flow rate, and direction.
- Identify vulnerable locations in the facility where discharges are most likely to occur.

Containment and Diversionary Structures

Facilities must install containment or diversion structures that prevent discharges from leaving the primary containment area. Examples of acceptable structures include:

- Dikes, berms, and retaining walls around oil storage containers.
- Sumps and collection systems for spill capture and redirection.
- Retention ponds or spill diversion ponds for large spill containment.
- Sorbent materials for spill absorption and containment in case of small, localized spills.

Impractical Secondary Containment

In the event where implementing certain spill prevention measures, such as secondary containment structures, is deemed impracticable, the regulation requires facility owners/operators to take the following actions:

- Ensure that the SPCC Plan is certified by a licensed PE, as stipulated under 40 CFR part 112.3(d).

- Clearly explain in the SPCC Plan why implementing the specific prevention measures is not practicable.

- For bulk storage containers, conduct periodic integrity testing of the containers, as well as periodic integrity and leak testing of valves and piping.

- Develop and include an oil spill contingency plan that follows the provisions of 40 CFR Part 109.

- Provide a written commitment detailing the manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

Inspections, Tests, and Recordkeeping

Conduct routine inspections and tests according to documented procedures and maintain signed records of each inspection or test. Keep these records for a minimum of three years with the SPCC Plan. Records kept under usual business practices are generally sufficient if they fulfill the inspection and testing requirements.

Training and Discharge Prevention Procedures

- Train oil-handling personnel in the operation and maintenance of equipment, SPCC Plan contents, and spill response procedures. Training should cover applicable pollution control laws and general facility operations.

- Assign a designated person responsible for discharge prevention who reports directly to facility management.

- Conduct at least one annual briefing to review SPCC Plan updates, past incidents, and any improvements to discharge prevention procedures.

Security Measures (Excluding Oil Production Facilities)

Describe security measures to control access to areas where oil is handled, stored, or processed. Measures should include:

- Securing access points to oil storage areas.

- Locking master flow and drain valves and securing out-of-service pipelines.

- Ensuring appropriate security lighting to aid in the discovery of discharges and to prevent unauthorized access.

Tank Loading/Unloading Procedures

- Containment for Loading/Unloading Racks: If loading and unloading racks do not drain to a catchment or treatment area, provide containment around racks that holds at least the maximum capacity of any single tank compartment loaded or unloaded.

- Prevent Vehicle Departure Before Disconnection: Use interlocked systems, wheel chocks, or barriers to prevent vehicles from leaving before transfer lines are safely disconnected.

- Predeparture Inspections: Inspect the lower outlets and drain plugs of each vehicle to prevent discharges during transit.

Aboveground Container Alterations or Repairs

If an aboveground container undergoes repairs, reconstruction, or alterations that could affect discharge risk, evaluate it for risks such as brittle fracture, and take any necessary precautions to prevent future discharge.

Alternative Requirements for Qualified Oil-Filled Equipment

For oil-filled operational equipment with no discharges exceeding 1,000 gallons or two discharges over 42 gallons within a 12-month period in the past three years, you may use alternative inspection and monitoring instead of secondary containment. Document these alternative procedures in your plan and ensure a written commitment of necessary resources for spill response.

Plan Review and Amendment Requirements

Review and update the SPCC Plan at least once every five years or whenever significant operational or structural changes occur at the facility. Amendments should reflect any new information, equipment, or procedures essential to maintaining SPCC compliance.

40 CFR 112.8 Spill Prevention, Control, and Countermeasure Plan Requirements for Onshore Facilities (excluding production facilities)

40 CFR 112.8 specifies spill prevention, control, and countermeasure requirements for onshore facilities that store oil in bulk, providing standards to prevent oil spills from reaching navigable waters or shorelines. These requirements are integral to the ASVS Program, as they support robust containment and spill control measures specifically for ASVs.

ASVs covered under the program must meet the following requirements to align with both federal and state standards for spill prevention and water resource protection.

Facility Drainage

- **Diked Areas Around ASVs**: Diked areas surrounding ASVs must have closed drains that are manually controlled. Before releasing any rainwater from these diked areas, operators must inspect it to ensure it is oil-free. This prevents inadvertent discharges from ASVs into navigable waters, aligning with ASVS Program objectives to safeguard water resources.

- **Undiked ASV Areas**: For undiked areas where ASV drainage might carry oil, the drainage must be directed through treatment systems, such as oil-water separators, to capture oil before discharge. This ensures that ASVs located in

undiked sections of facilities still meet containment requirements, reducing the risk of contamination to water resources.

Bulk Storage Containers

- **Secondary Containment for ASVs**: Each ASV must have secondary containment capable of holding the maximum volume of the largest ASV within that containment area, plus freeboard for precipitation. This requirement is essential for ASVs storing significant volumes of oil and is a primary measure in the ASVS Program for mitigating spill risks.

- **Material Compatibility**: ASVs must be constructed from materials compatible with the type of oil stored, preventing material breakdown or leaks. This aligns with ASVS Program requirements, ensuring that storage ASVs are structurally sound and suited to the contents they hold.

- **Integrity Testing**: Regular integrity testing and visual inspections are required for ASVs, as specified by industry standards, to identify signs of deterioration. This testing ensures that ASVs remain in good condition, helping prevent spills that could impact nearby water sources.

- **Overfill Prevention for ASVs**: ASVs must be equipped with overfill prevention systems, such as high-level alarms or automatic shutoffs, to stop accidental overfilling. This requirement directly supports ASVS Program goals by reducing the risk of spill incidents during filling operations.

- **Effluent Handling**: Rainwater within ASV containment areas should only be released after confirming it is oil-free, using manually or automatically controlled valves. This practice prevents contaminated rainwater from entering waterways, an essential control in the ASVS Program's water protection mandate.

Transfer Operations, Pumping, and Facility Process

- **Secondary Containment for Transfer Areas Near ASVs**: Facilities must provide secondary containment, such as curbing or barriers, in ASV transfer areas to control any potential spills during loading and unloading. This containment is critical to the ASVS Program's objective of minimizing spill risks at points where oil is transferred.

- **Transfer Equipment Inspection**: Hoses and other equipment used for transferring oil into or out of ASVs should be regularly inspected and maintained to prevent leaks. The ASVS Program emphasizes proactive measures like these inspections to reduce spill risks associated with equipment wear or failure.

40 CFR 112.12 Spill Prevention, Control, and Countermeasure Plan Requirements

40 CFR 112.12 outlines SPCC requirements specific to onshore facilities that store or handle animal fats and vegetable oils, establishing standards to prevent spills that could harm navigable waters or shorelines. These requirements are part of the federal SPCC rule and apply to ASVs containing regulated animal fats and vegetable oils. Compliance with these standards ensures that ASVs meet both federal spill prevention standards and Texas-specific ASVS Program goals, providing robust protections for environmental and water resources.

NOTE: It is recognized that 40 CFR 112.12 is unlikely to apply to most ASVs, as it applies to storage of animal fats and vegetable oils. However, if an ASV contains a mixture composed of a regulated substance under 30 TAC 338, in addition to animal fats/vegetable oils, it may be possible that an ASV could be governed under 40 CFR 112.12. Under this scenario, an owner/operator must apply 40 CFR 112.12 to the regulated ASV as appropriate.

1. **Facility Drainage**

- **Diked Areas**: Diked areas around ASVs storing animal fats or vegetable oils must have closed drainage valves and must be manually drained after inspection. Before draining, inspect the accumulated rainwater for oil contamination and only release it if confirmed to be oil-free. This practice helps prevent accidental discharges from reaching navigable waters, supporting the ASVS Program's water protection objectives.

- **Undiked Areas**: For ASV areas without diking where oil-contaminated drainage could occur, drainage must be routed through an oil-water separator or similar treatment system to capture any oil before discharge. This measure ensures that undiked ASVs comply with both federal and ASVS Program standards for spill prevention in undiked storage areas.

2. **Bulk Storage Containers (ASVs)**

- **Secondary Containment**: Each ASV storing animal fats or vegetable oils must have secondary containment capable of holding the largest single container's volume within the area, plus additional freeboard to account for rainfall. This containment capacity is critical to prevent potential spills from affecting nearby waters.

- **Material Compatibility**: ASVs must be constructed with materials compatible with the specific oils stored to prevent container degradation or leaks. Ensuring material compatibility aligns with the ASVS Program's focus on vessel integrity and the safe storage of regulated substances.

- **Regular Integrity Testing and Visual Inspections**: Conduct periodic integrity tests (e.g., hydrostatic testing, visual inspection) and regular visual checks of ASVs to detect signs of deterioration or leakage. These inspections are crucial for preventing oil releases from ASVs and support the ASVS Program's emphasis on preventive maintenance.

- **Overfill Prevention**: Install high-level alarms, automatic shutoff systems, or other overfill prevention devices to avoid spills during filling operations. Test these devices regularly to ensure they are operational, reducing the risk of overfills that could lead to discharges. Overfill protection aligns directly with ASVS Program goals to prevent operational spills.

- **Drainage of Containment Areas**: Drain rainwater from containment areas only after inspecting and confirming it is free of oil. Use manually or automatically controlled valves to prevent unintentional releases. Proper drainage handling supports both SPCC and ASVS Program objectives by ensuring that containment areas do not release contaminants into the environment.

3. **Transfer Operations, Pumping, and Facility Process**

- **Secondary Containment for Transfer Areas**: Facilities must provide secondary containment, such as curbing or spill containment barriers, at ASV transfer stations (e.g., loading/unloading points) to prevent spills during oil transfer activities. This containment is vital to the ASVS Program's objective of mitigating spill risks associated with oil transfers.

- **Inspection of Transfer Equipment**: Regularly inspect hoses, valves, and fittings used in transfer operations to identify wear or damage and prevent potential leaks. The ASVS Program emphasizes routine equipment inspections to reduce risks of spills from transfer activities.

Facilities storing animal fats or vegetable oils must follow specialized handling and containment measures, recognizing that these oils pose different environmental risks and have unique chemical characteristics. Plans should detail separation and containment practices specific to these types of oils to prevent contamination of water sources.

40 CFR 112.20 Facility Response Plans

40 CFR 112.20 requires certain facilities to prepare and implement an FRP to ensure that they are adequately prepared to respond to oil discharges that could potentially impact navigable waters or shorelines. This regulation applies to facilities meeting specific criteria related to oil storage capacities and risk of substantial harm, including certain ASVs regulated under the ASVS Program. The FRP requirements are intended to supplement an SPCC Plan by detailing emergency response capabilities and ensuring that facilities are prepared for significant oil spill events.

Substantial Harm Criteria

A facility is classified as posing substantial harm if it meets one or more of the following criteria:

- **Transfers Oil Over Water:** Facility has a total oil storage capacity greater than or equal to 42,000 gallons and it transfers oil over water to/from vessels; or

- **Storage Capacity:** Facility with an aggregate aboveground oil storage capacity greater than or equal to one million gallons that meets any of the following criteria:
    - **Proximity to Sensitive Environments:** If the facility lacks secondary containment for each aboveground storage area and is located at a distance such that a discharge could cause injury to fish, wildlife, and sensitive environments.
    - **Proximity to Public Water Supplies:** If a facility without adequate secondary containment could discharge oil at a distance that would adversely impact public drinking water intakes.
    - **History of Reportable Oil Discharges:** If a facility has experienced a reportable discharge greater than or equal to 10,000 gallons within the past five years.

ASVs that meet any of these criteria must prepare an FRP, as required by 40 CFR 112.20, in addition to their SPCC Plan.

FRP Requirements

If an ASV facility is determined to pose substantial harm, it must prepare an FRP. The FRP must be a detailed, written plan designed to guide facility personnel in responding to oil spills and must include:

- **Emergency Response Actions**: Steps that facility personnel will take to respond to an oil discharge.
- **Notification Procedures**: Detailed procedures for notifying federal, state, and local authorities in the event of a discharge.
- **Identification of Response Resources**: Documentation of response equipment and resources available on-site or through contracted services.
- **Training and Drills**: The plan must include training programs for personnel and a schedule for drills to ensure response readiness.

An FRP must be integrated with local emergency response plans to ensure coordinated responses and must comply with National Oil and Hazardous Substances Pollution Contingency Plan requirements.

Submission and Review of the FRP

- **Initial Submission**: Facilities that meet the substantial harm criteria must submit the FRP to the EPA Regional Administrator for review.
- **Updates and Revisions**: The FRP must be reviewed and updated periodically. Significant changes in facility operations, personnel, or response capabilities require an FRP update, and the updated plan must be submitted to the EPA.

Certification of the Facility's Substantial Harm Status

- Facilities that determine they do not meet the substantial harm criteria must document this determination by completing the "Certification of the Applicability of the Substantial Harm Criteria" form.

- This certification exempts the facility from the FRP requirement, although it must still comply with SPCC requirements. Facilities must maintain the certification on-site with the SPCC Plan and reassess it periodically.

Plan Review and Drill Requirements

Facilities subject to FRP requirements must implement a regular schedule of drills and exercises, including:

- **Annual Facility-initiated Response Drills**: At least once per year, facilities must conduct response drills that test the effectiveness of the FRP.

- **Full-scale Response Exercises Every Three Years**: Facilities must conduct a full-scale exercise simulating an oil spill response every three years to verify the readiness of personnel and response equipment.

ASVs regulated under the ASVS Program that meet substantial harm criteria are required to develop and implement an FRP as described in FRP as described in 40 CFR 112.20. The FRP must include comprehensive emergency response strategies, resource identification, and coordinated training and drill schedules. Ensuring that ASVs comply with FRP requirements supports the ASVS Program's intent of protecting water resources by enhancing response readiness for facilities with significant spill risk.

It is recommended to use the EPA checklist[17] to determine the applicability of the FRP rule.

40 CFR 112.21 Facility Response Training and Drills/Exercise

40 CFR 112.21 establishes training and response exercise requirements for facilities that handle and store oil, aimed at ensuring that facility personnel are prepared to respond effectively to oil discharges that could impact navigable waters or shorelines. These requirements apply to facilities with FRPs under 40 CFR 112.20, including certain ASVs regulated by the ASVS Program. Compliance with 40 CFR 112.21 ensures that facilities have properly trained personnel and conduct response exercises to prepare for potential oil discharge incidents.

17. www.epa.gov/sites/default/files/2014-07/tier_i_checklist_june_2014.docx

Key Training and Exercise Requirements Under 40 CFR 112.21 and Their Application to ASVs

1. **Training Requirements for Oil-handling Personnel**

Facilities with an FRP must establish a training program for personnel involved in oil handling, transfer, and response operations. This program must include training on:

- **Discharge Prevention Protocols**: Procedures for operating oil-handling equipment to prevent discharges.
- **Response and Mitigation Procedures**: Methods for containing and controlling discharges in the event of a spill.
- **Spill Notification Requirements**: Steps for alerting internal personnel and external response teams or agencies.
- **Annual Training**: Training for oil-handling personnel must be conducted annually to ensure staff are familiar with current response and prevention protocols. This annual training helps ASV facilities meet both federal and ASVS Program standards for maintaining an informed and prepared workforce.

2. **Response Exercises and Drills**

Facilities subject to FRP requirements must conduct a series of regular exercises to test the effectiveness of their FRP and response capabilities. These include:

- **Quarterly Notification Exercises**: Every three months, the facility must test its notification procedures, ensuring that personnel can promptly and correctly notify the appropriate response entities in the event of a discharge.
- **Annual Spill Response Exercises**: At least once per year, the facility must conduct a response exercise simulating an oil spill scenario. This exercise tests personnel readiness and the functionality of response equipment.
- **Triennial Full-scale Exercises**: Every three years, a full-scale exercise simulating a worst-case discharge scenario is required. This involves activating the entire response plan, mobilizing equipment and resources, and may involve external responders assessing the facility's overall preparedness.

3. **Documentation of Training and Exercises**

Facilities must maintain thorough records documenting all training sessions and response exercises. These records must include:

- **Date and Description of Each Exercise or Training Event:** A brief summary of what was covered or tested.
- **Personnel Involved:** Names and roles of all personnel who participated.

- **Evaluation and Follow-up:** An assessment of the exercise effectiveness and any corrective actions or improvements needed.

Records of training and exercises must be kept as part of the FRP documentation to verify ongoing compliance with 40 CFR 112.21 requirements. This documentation aligns with ASVS Program standards for maintaining proof of preparedness and accountability.

For ASVs that meet the substantial harm criteria and are therefore required to have an FRP, the training and exercise requirements under 40 CFR 112.21 are essential for maintaining spill response readiness. By implementing annual training, quarterly notifications, and periodic response exercises, ASV facilities can ensure that their personnel are prepared for a rapid and effective response to oil discharge incidents. The regular testing of response procedures and equipment helps facilities meet ASVS Program goals to prevent, control, and mitigate the impacts of oil discharges on navigable waters and shorelines.

API Standard 653 Tank Inspection, Repairs, Alteration and Reconstruction

American Petroleum Institute (API) Standard 653 outlines rigorous standards for maintaining the integrity of ASVs, covering requirements for shell, bottom, and foundation evaluations, as well as detailed guidance on tank repair, alteration, and reconstruction.

Note: API Standard 653, Fifth Edition, November 2014 (Addendum 1, April 2018 and Addendum 2, May 2020), is the applicable version with respect to 30 TAC Chapter 338. The information provided within is an overview of the sections of API Standard 653 that must be taken into consideration for ASVs that are found to meet API Standard 653 applicability. API Standard 653 is very prescriptive and requires detailed knowledge of the standard. As such, it is the responsibility of the owner/operator of an ASV found to be governed by 30 TAC Chapter 338 and API standard 653 to utilize the text of the detailed standard for determining compliance. See Appendix B for instructions on purchasing the standards on the API website.[18]

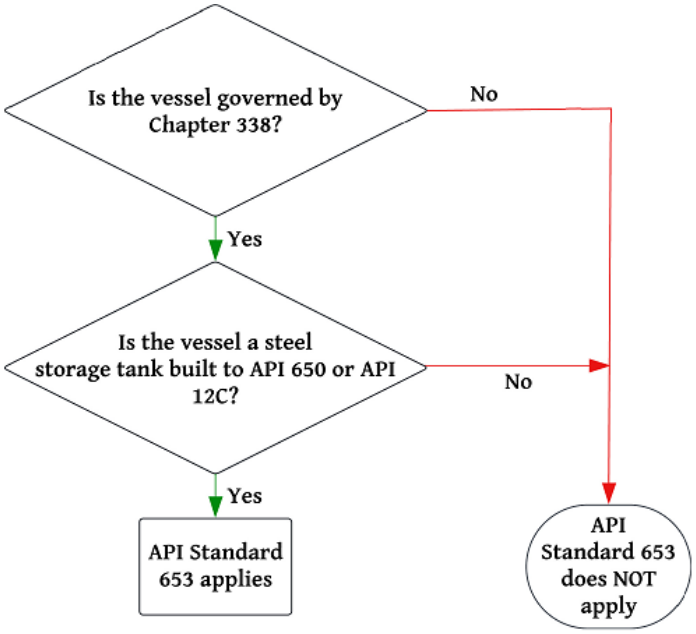
API Standard 653 Applicability

Under 30 TAC Chapter 338, API Standard 653 applies to owners or operators of steel storage tanks built to API 650 standards and its predecessor API 12C standards.

In addition to the applicability criteria below, the standard identified in this section is only applicable when the vessel meets the definition of an ASV as defined in 30 TAC 338.2.

18. www.api.org/products-and-services/standards/purchase

Figure 4. API Standard 653 Applicability Flowchart



API Standard 653 Section Owner/Operator Overview

This section is focused on the tasks and expectations specifically related to owner/operators of ASVs governed by API Standard 653.

Establishing an API 653 Program

API 653 clearly indicates the necessary steps for establishing an API 653 program. As such, the detailed text of API 653 must be consulted and the necessary steps followed for determining the testing schedule and required personnel in performing in future vessel evaluations.

Inspections

API 653 Sections 4.3.1 through 4.4 provide guidance and requirements related to inspecting types and timing required for vessels falling within the API 653 applicability. These inspections include routine in-service inspection (4.3.1), external inspection (4.3.2), ultrasonic thickness inspection (4.3.3), and internal inspection (4.4). Timely inspection can help to avoid potential safety and environmental events.

Use Qualified Personnel for Inspections and Load Analysis

API 653 provides guidance as to the credentialing and required expertise of personnel performing tank inspections. It is the responsibility of the owner/operator to ensure that only personnel meeting these requirements perform inspections mandated by API 653. Authorized personnel are responsible for thoroughly examining the tank shell for deterioration or operational changes, as they could impact structural integrity.

Through qualified inspection, you ensure that all findings are based on recognized industry standards and can support reliable structural assessments.

The subsequent sections provide further guidance on the responsibilities of the owner/operator and outline expectations for API 653-authorized inspections.

API Standard 653 Section 4.3 Tank Shell Evaluation

API 653 Section 4.3 provides detailed guidance for ASV owner/operators, storage tank engineers, and API 653 authorized inspectors on evaluating tank shell integrity. Each component of this process is essential for maintaining the safe, reliable, and compliant operation of ASVs. This guidance document provides a summary of API 653 Section 4.3, however, owners/operators should review the full text of the standard for additional detail on each requirement.

API Standard 653 Section 4.3.1 General

API 653 Section 4.3.1 provides the general elements that must be addressed in conducting a tank shell evaluation. This includes identifying any flaws, deterioration, or service-related changes that could impact the tank shell's structural integrity and checking for general corrosion and pitting.

A routine in-service assessment conducted by personnel meeting API 653 standards provides a comprehensive view of the shell's condition. Per API 653 guidelines, if significant flaws or changes are identified, proceed with a detailed evaluation of the affected areas conducted by personnel identified in API 653 guidelines for the more detailed evaluation. API 653 Section 4.3.1 describes inspecting for visible damage, monitoring for services changes, and assessing the structural impact of relocation. Owner/operators must consult API 653 Section 4.3.1 for full details on these procedures.

Corrosion is one of the primary threats to shell integrity. It is important to evaluate all forms of corrosion, both general (widespread thinning) and localized pitting, to determine the shell's remaining strength and service suitability. Even if isolated pits appear minor, they need to be assessed in the context of the entire structure. To this end, API 653 Chapter 4.3.1 provides guidance on measuring corrosion rates, documenting and tracking pitting, and implementing prevent measures.

By monitoring and managing corrosion, you can extend the lifespan of the tank shell and prevent structural weakening.

API Standard 653 Sections 4.3.2 through 4.3.4 Thickness Determination

Maintaining minimum shell thickness is fundamental for ASV safety. Thickness levels for welded and riveted ASVs should meet the standards outlined in API 653 Sections 4.3.2 through 4.3.4, ensuring the tank can withstand pressure, weight, and environmental loads. API 653 Sections 4.3.2 through 4.3.4 provide guidance on the personnel and testing required for maintaining minimum tank shell thickness, including, but not limited to calculating minimum shell thickness, accounting for environmental and operational stress, and recording thickness data for historical

reference. Maintaining the specified thickness levels is essential to ensure the shell's ability to perform safely under all operational conditions.

For riveted ASVs, additional information is provided by API 653 related to specific thickness requirements and assessments to account for the unique structural characteristics of riveted joints. The additional information is related, but not limited to, calculating joint efficiency and thickness requirements, inspecting for corrosion around rivets, and scheduling additional inspections for riveted ASVs. Taking these steps with riveted tanks can help mitigate the risk of leaks and joint separation, especially for ASVs handling hazardous or corrosive materials.

API Standard 653 Section 4.3.5 Distortions

API Section 4.3.5 details how to evaluate shell distortions, including, but not limited to, identifying and documenting distortion types, assessing the cause of distortion, and determining corrective actions for excessive distortions. Regular monitoring for distortions helps prevent uneven loading and ensures safe operation under various conditions.

API Standard 653 Section 4.3.6 Flaws

API 653 Section 4.3.6 details how to inspect shell flaws and address defects. Any shell flaws, such as cracks, laminations, gouges, or arc strikes, should be assessed and repaired if they compromise tank integrity, per API 653 Section 4.3.6 guidance. Details addressed in API Section 4.3.6 include, but are not limited to, evaluation of flaw severity, removal/repairing of defects, and recording repair actions. Addressing flaws promptly protects the shell against further weakening and ensures safe, long-term operation.

API Standard 653 Section 4.3.7 Wind Girders and Shell Stiffeners

API 653 Section 4.3.7 details how to evaluate the condition of wind girders and shell stiffeners. For tanks subject API 653 Section 4.3.7, information provided includes, but is not limited to, inspecting for corrosion and damage, ensuring girders and stiffeners are secure, and repairing/reinforcing if needed. Wind girders are essential for preventing shell movement or collapse during high winds, ensuring tank safety.

API Standard 653 Section 4.3.8 Shell Welds

API 653 Section 4.3.8 details how to evaluate the condition of shell welds. Weld integrity is essential for ASV safety, particularly in tanks exposed to stress or operational fluctuations. Guidance provided by API Section 4.3.8 includes but is not limited to inspecting welds for common defects, repairing/reinforcing compromised welds, and maintaining documentation of weld repairs. Regular weld inspections prevent minor issues from escalating, thus enhancing tank stability.

API Standard 653 Section 4.3.9 Shell Penetrations

API 653 Section 4.3.9 pertains to the inspection of all shell penetrations (e.g., nozzles) for wall thickness and overall integrity, as these are common points of stress and

corrosion. Guidance provided includes but is not limited to examining nozzle/penetration thickness, inspecting corrosion around penetrations, documenting findings, and scheduling re-inspection. Shell penetrations require close attention to prevent leaks and ensure safe operation.

API Standard 653 Section 4.3.10 Operation at Elevated Temperatures

API 653 Section 4.3.10 addresses evaluation of welded tanks that operate at elevated temperatures (temperatures above 200˚F, but less than 500˚F). Guidance provided by API 653 Section 4.3.10 includes, but is not limited to, additional evaluation criteria for elevated temperature service, potential modifications for elevated temperature service, and scheduling inspections based on elevated temperature service. Following API 653 Section 4.3.10 for elevated-temperature ASVs ensures safe operation under thermally demanding conditions.

API Standard 653 Section 4.4 Tank Bottom Evaluation

API 653 Section 4.4 provides information for owners and operators of ASVs as to the requirements related to comprehensive tank bottom evaluation strategies. Evaluating the tank bottom is critical to preventing leaks and ensuring environmental compliance. The guidance provided by API 653 Section 4.4 includes, but is not limited to, general tank bottom inspection strategy, addressing common causes of tank bottom failure, release prevention systems, bottom plate requirements and measurement, and annular ring thickness. More information is provided below.

API Standard 653 Section 4.4.1 General

Tank bottom inspections must follow API 653 Section 4.4 guidance. Additionally, API 653 Section 4.4 addresses excessive settlement, as it can compromise tank integrity by affecting both the shell and the bottom. Regular monitoring of settlement behavior provides insight into foundational shifts that could lead to structural stress or failure in the tank bottom. Refer to Annex B of API 653 for detailed techniques on evaluating bottom settlement.

API Standard 653 Section 4.4.2 Causes of Bottom Failure

Historical data highlights several causes of tank bottom leaks or failures. API 653 Section 4.4.2. provides owners and operators with guidance on what should be considered with respect to tank bottom integrity and failure.

API Standard 653 Section 4.4.3 Tank Bottom Release Prevention Systems (RPS)

API supports using RPS strategies to safeguard the environment by maintaining tank bottom integrity. The term RPS refers to a suite of standards and practices, such as leak detection systems, cathodic protection, and internal linings, that collectively help prevent tank leaks. Additional details can be found in API 653 Section 4.4.3.

API Standard 653 Section 4.4.4 Bottom Plate Thickness Measurements

Determining the remaining thickness of bottom plates involves multiple methods to evaluate soil-side corrosion levels. To ensure a comprehensive assessment, combine various techniques, including:

- **Magnetic Flux Leakage (MFL)**: MFL tools are commonly used to assess general corrosion and pitting on tank bottoms.
- **Ultrasonic Thickness (UT) Testing**: Ultrasonic testing provides detailed, quantitative data on bottom plate thickness and confirms MFL findings.
- **Personnel and Equipment Standards**: Annex G provides guidelines on qualifying personnel and procedures to ensure high-quality data from MFL and UT testing.

The results of these thickness measurements help establish the condition of the entire bottom plate and guide maintenance planning.

API Standard 653 Section 4.4.5 Minimum Thickness for Tank Bottom Plate

Quantifying the minimum remaining thickness of tank bottoms is critical for determining whether they are suitable for continued service. Guidance in API 653 Section 4.4.5 includes, but is not limited to, minimum thickness calculation, probabilistic thickness calculation, response to thickness below minimum standards, critical zone thickness, and repair methods. Maintaining bottom plate thickness as per API standards prevents potential failure, extending the life of the tank bottom and ensuring safe operation.

API Standard 653 Section 4.4.6 Minimum Thickness for Annular Plate Ring

The annular plate ring, located beneath the shell-to-bottom connection, must meet minimum thickness requirements due to its structural role. Guidance provided by API 653 Section 4.4.6 includes, but is not limited to, thickness requirements, seismic considerations, and annular plate projection. Following these guidelines for the annular plate ring prevents structural failures caused by foundation shifts or seismic activity, particularly for ASVs in high-risk areas.

API Standard 653 Section 4.5 Tank Foundation Evaluation

API Standard 653 Section 4.5.1 General

The following guidance is intended to assist ASV owners and operators in evaluating and maintaining tank foundations in line with API 653 Section 4.5. A solid and stable foundation is essential to ensuring that ASVs retain their structural integrity and avoid conditions that could lead to tank failure.

To prevent tank instability, API 653 Section 4.5 provides guidance on assessing the foundation for signs of deterioration such as settlement, erosion, cracking, and general concrete degradation. These inspections must be performed as per API 653 Section 4.5

as part of your maintenance program, especially when environmental conditions are present that could accelerate deterioration.

For concrete foundations, specific environmental and chemical factors can lead to significant structural deterioration. API 653 Section 4.5 provides guidance related but not limited to: high-temperature effects (calcining), underground water exposure, freeze-thaw expansion, Alkali and sulfate reactions, and temperature cracks. Each of these mechanisms should be thoroughly understood, monitored, and addressed, as needed.

For tanks that operate at elevated temperatures above 200˚F (93˚C), review the foundation's suitability to support high-temperature service. API 650 Section B.6 provides guidelines for this evaluation, which include considering the effects of heat on both the soil and foundation material. If the tank foundation is exposed to significant temperature changes, it may require materials or construction techniques that can withstand thermal stress.

API Standard 653 Section 4.5.2 Foundation Repair or Replacement

If the foundation shows signs of severe deterioration, repair or replacement may be necessary to maintain the tank's structural integrity. When undertaking such corrective actions, ensure the foundation meets the standards in API 653.

API Standard 653 Section 4.5.3 Anchor Bolts

Inspect anchor bolts as part of the foundation evaluation, as they are crucial for securing the tank to its foundation and resisting uplift pressures. Deformed or corroded anchor bolts may indicate serious foundation settlement issues or a potential tank overpressure condition. API 653 Section 4.5.3 provides guidance including, but not limited to, bolt distortion, cracking around anchor points, and corrective measures.

By following the guidance, ASV owners and operators can help improve their tank foundations' stability and aid in preventing structural issues that could lead to tank failure. Regular inspections, early detection of deterioration, and timely repairs are essential components of effective foundation maintenance for ASVs.

API Standard 653 Section 6.2 Inspection Frequency Considerations

This section provides comprehensive guidance for establishing inspection intervals for ASVs, based on API 653 Section 6.2. Determining appropriate inspection frequencies is crucial to ensure tank integrity, operational safety, and compliance with jurisdictional requirements. By evaluating factors that affect tank wear and operational conditions, ASV owners and operators can optimize inspection schedules, enhance safety, and proactively manage corrosion risks.

API Standard 653 Section 6.2.1 Factors Influencing Inspection Intervals

API 653 Section 6.2.1 provides guidance as to the factors to consider when determining the interval between inspections for storage tanks. These considerations help ensure

inspections occur frequently enough to detect and address issues before they lead to tank failure or environmental contamination.

API Standard 653 Section 6.2.2 Service History-Based Inspection Intervals

ASVs with a detailed service history can use this data to set inspection intervals based on performance trends. Tanks with consistent service histories allow for more precise interval adjustments, while tanks with fluctuating or unknown service conditions may need shorter, more frequent inspections until consistent trends are established.

API Standard 653 Section 6.2.3 Complying with Jurisdictional Regulations

In some locations, jurisdictional regulations dictate inspection intervals and frequency. ASV owners and operators must be aware of these regulations to remain compliant and avoid potential penalties. Jurisdictional requirements may cover several aspects, including but not limited to, vapor loss control, leak control, containment, repair/maintenance. Staying informed of jurisdictional requirements for inspection intervals and conditions ensures compliance and minimizes potential regulatory risks.

By following the guidance provided this section, ASV owners and operators can establish inspection intervals tailored to tank-specific conditions, risk factors, and regulatory requirements. Careful planning of inspection frequencies helps extend tank life, reduce risks, and uphold environmental and operational safety.

API Standard 653 Section 6.3 Inspections From the Outside of the Tank

The following guidance outlines the inspection requirements for the external condition of ASVs as per API 653 Section 6.3. This section provides ASV owners and operators with specific procedures and personnel credentials required for conducting routine and thorough external inspections. These inspections allow for ongoing monitoring of tank integrity and help identify early signs of wear, corrosion, and other conditions that could compromise the tank structure or lead to environmental risks.

API Standard 653 Section 6.3.1 Routine In-Service Inspections

Routine in-service inspections of the tank exterior are essential for tracking the condition of ASVs on a regular basis. API 653 Section 6.3.1 provides guidance related to inspection frequency, personnel qualifications, inspection scope, and documentation. Regular in-service inspections help to identify minor issues before they escalate, allowing for timely intervention to maintain tank integrity.

API Standard 653 Section 6.3.2 External Inspection

A comprehensive external inspection must be conducted for all ASVs by personnel meeting the API 653 Section 6.3.2 requirements per the prescribed schedule. API 653 Section 6.3 provides guidance and calculations for determining this information. Comprehensive external inspections by an authorized inspector ensure that the ASV meets API 653 standards for structural integrity, safety, and environmental compliance.

API Standard 653 Section 6.3.3 Ultrasonic Thickness Inspection

Ultrasonic thickness (UT) measurements provide a nondestructive way to assess the shell thickness and corrosion rate of ASVs from the outside. These measurements are especially useful for monitoring general uniform corrosion while the tank remains in service. As such, API 653 Section 6.3.3 provides guidance related to UT measurements. Routine UT measurements offer valuable data for monitoring shell integrity, allowing for proactive adjustments to inspection intervals and maintenance schedules based on real-time data.

API Standard 653 Section 6.3.4 Cathodic Protection Surveys

For ASVs equipped with cathodic protection (CP) systems, regular surveys are required to confirm that these systems effectively prevent corrosion of the tank bottom's exterior surface. API 653 Section 6.3.4 provides guidance including, but not limited to, conducting cathodic protection surveys, reviewing/verifying results, and survey personnel. Maintaining a functional CP system helps prevent soil-side corrosion, contributing to the overall integrity of the ASV and reducing the risk of leaks or environmental contamination.

API Standard 653 Section 6.4 Internal Inspection

The following guidance outlines the requirements for conducting internal inspections for ASVs, based on API 653 Section 6.4. Internal inspections are critical to assess the condition of the tank bottom and shell and to ensure the ongoing structural integrity and operational safety of ASVs. This section provides detailed instructions on inspection objectives, methods, and intervals, with special considerations for tanks equipped with release prevention systems or those subject to risk-based inspections.

API Standard 653 Section 6.4.1 General

An internal inspection serves several essential purposes that collectively contribute to maintaining tank integrity. To this end, API 653 Section 6.4 provides guidance including, but not limited to, assessing bottom corrosion, leakage risks, gathering thickness data, and identifying tank bottom settlement.

A formal internal inspection must be conducted at intervals set forth in Section 6.4.2. The inspection should be performed or supervised by an authorized inspector per Section 6.4.2 guidance/requirements. As such, Section 6.4.2 provides guidance including, but not limited to, use of robotic inspection methods, use of electromagnetic inspection methods, and data requirements for thickness/corrosion evaluation.

API Standard 653 Section 6.4.2 Inspection Intervals

API 653 Section 6.4.2 provides guidance for determining initial and subsequent inspection intervals. Properly timed inspections allow for timely detection of deterioration, reducing the risk of leaks and enhancing operational safety. ASV owners/operators must review and comply with these interval standards to ensure continued safe tank operation.

API 653 Section 6.4.2.1.1 provides fundamental guidelines for establishing initial inspection intervals for ASVs. It emphasizes that the first internal inspection should be based on factors such as the tank's construction, corrosion history, and service conditions.

API 653 Section 6.4.2.1.2 provides guidance for performing risk-based inspection of vessels. Risk-Based Inspection (RBI) assessments provide a systematic approach to determine inspection intervals, tailored to specific tank risk factors. RBI assessments evaluate both the likelihood and consequences of tank failure and must comply with API RP 580.

Following the initial inspection, establish subsequent inspection intervals based on either corrosion rates or updated RBI assessments, as per API 653 Section 6.4.2.2. Section 6.4.2.2 provides guidance including but not limited to the use of corrosion rate procedure and RBI-based interval adjustment.

By following the internal inspection requirements in this section, ASV operators can ensure thorough and reliable evaluations of tank bottom and shell integrity. Conducting timely inspections, accurately determining intervals, and incorporating RBI assessments when appropriate allows operators to maintain safe, environmentally compliant, and effective ASVs.

API Standard 653 Section 8 Design Considerations for Reconstructed Tanks

This section provides guidance on the design considerations and standards for the reconstruction of ASVs, ensuring that reconstructed tanks meet current safety, stability, and structural requirements. API 653 Sections 8.1 through 8.8 provide guidance including, but not limited to, design requirements beyond normal product loading, existing and new weld joint compliance, shell and roof design considerations, shell penetrations, windgirders, shell stability, seismic considerations, and enhanced structural elements.

By following the design guidelines and considerations provided in this section, ASV owners and operators can ensure that reconstructed tanks meet modern standards for safety, durability, and environmental compliance. Careful attention to these design elements helps prevent structural failures, minimizes operational risks, and enhances the longevity of the reconstructed ASV.

API 653 Section 8.1 General

This section outlines the general design considerations for reconstructed aboveground storage tanks (ASTs). It emphasizes that any specific design requirements beyond normal product loading must be specified by the owner/operator. Additionally, this section refers to release prevention systems and release prevention barriers, ensuring that reconstructed tanks incorporate appropriate safeguards to prevent leaks and environmental contamination. These design considerations help ensure that reconstructed tanks maintain structural integrity, regulatory compliance, and safe operation.

API 653 Section 8.2 New Weld Joints

This section establishes requirements for new weld joints in reconstructed ASTs. It mandates that all weld joint details comply with the current applicable welding standard.

API 653 Section 8.3 Existing Weld Joints

This section establishes requirements for evaluating existing weld joints in reconstructed tanks. It specifies that all welds must comply with the as-built standard.

API 653 Section 8.4 Shell Design

This section provides guidelines for verifying the structural integrity of a reconstructed tank's shell.

API 653 Section 8.5 Shell Penetrations

This section establishes the requirements for new and replacement shell penetrations.

API 653 Section 8.6 Windgirders and Shell Stability

This section addresses the requirements for windgirders and shell stability, ensuring that reconstructed tanks can withstand wind loads.

API 653 Section 8.7 Roof

This section establishes guidelines for roof design in reconstructed tanks.

API 653 Section 8.8 Seismic Design

This section sets forth seismic stability requirements for reconstructed tanks.

API Standard 653 Section 9 Tank Repair and Alteration

API 653 Section 9 guides owners and operators of ASVs in understanding the detailed requirements for repair and alteration of tanks. Proper adherence to these guidelines ensures that repairs and alterations maintain structural integrity, meet safety standards, and protect against environmental hazards. As such, Section 9 provides guidance including, but not limited to, authorization/inspection requirements, material standards, welding standards, and repairs

Section 9 of API 653 is an essential reference for any repair or alteration involving ASVs, and due to its prescriptive nature, owner/operators should consult it directly to understand the specific requirements applicable to their vessel. The section is organized to guide users through general standards and specific repair methods, helping ensure that all repairs or alterations are carried out in a safe and compliant manner.

API 653 Section 9.1 General

This section outlines the general requirements for tank repairs and alterations, ensuring they meet API 650 equivalency.

API 653 Section 9.2 Removal and Replacement of Shell Plate Material

This section specifies the minimum thickness and dimensions for replacement shell plates and the welding requirements for their installation. It provides guidelines for removing and reinstalling shell sections.

API 653 Section 9.3 Shell Repairs Using Lap-welded Patch Plates

This section provides guidelines for using lap-welded patch plates as a repair method for localized shell damage. It establishes criteria for thickness, welding, and inspection requirements.

API 653 Section 9.4 Repairs Using Nonmetallic Materials

This section addresses the use of nonmetallic materials for structural repairs, detailing their limitations, design criteria, and installation methods.

API 653 Section 9.5 Repair of Defects in Shell Plate Material

This section provides requirements for repairing cracks, gouges, corrosion, and other defects in shell plates.

API 653 Section 9.6 Alteration of Tank Shells to Change Shell Height

This section specifies the process for modifying tank shell height by adding new plate material. It ensures that any increase in height considers wind, seismic, and hydrostatic loads.

API 653 Section 9.7 Repair of Defective Welds

This section outlines the repair of weld defects, including grinding, rewelding, and reinforcing weak joints.

API 653 Section 9.8 Repair of Shell Penetrations

This section provides guidelines for repairing existing nozzles and penetrations, ensuring they meet dimensional and structural requirements.

API 653 Section 9.9 Addition of Replacement of Shell Penetrations

This section establishes requirements for adding or replacing tank penetrations. It ensures that all modifications adhere to current design standards.

API 653 Section 9.10 Alteration of Existing Shell Penetrations

This section outlines the requirements for modifying existing penetrations, ensuring changes do not weaken the shell structure.

API 653 Section 9.11 Repair of Tank Bottoms

This section outlines methods for repairing or replacing tank bottoms to prevent leaks and ensure longevity.

API 653 Section 9.12 Repair of Fixed Roofs

This section defines repair procedures for fixed roofs, ensuring structural integrity and environmental protection.

API 653 Section 9.13 Repair of Floating Roofs

This section provides repair guidelines for external and internal floating roofs, including methods to restore their buoyancy, sealing effectiveness, and structural integrity.

API 653 Section 9.14 Repair of Replacement of Floating Roof Perimeter Seals

This section details the procedures for maintaining, repairing, or replacing floating roof seals, which minimize vapor emissions and prevent leaks.

API 653 Section 9.15 Hot Taps

This section provides requirements for performing hot taps, which allow for new connections to be added to an in-service tank without draining its contents.

API Standard 2350 Overfill Prevention for Storage Tanks in Petroleum

This section provides a comprehensive guide to implementing and maintaining Overfill Prevention Systems (OPS) for ASVs in compliance with 30 TAC Chapter 338. Overfill prevention is crucial to ensure safety, environmental protection, and operational reliability. This section covers types of OPS, tank categorization criteria, instrumentation, and system maintenance and control requirements.

Note: API Standard 2350, Fifth Edition, September 2020 (Errata 1, April 2021) is the applicable version with respect to 30 TAC Chapter 338. The information provided within is an overview of the sections of API Standard 2350 that must be taken into consideration for ASVs that are found to meet API Standard 2350 applicability. API Standard 2350 is very prescriptive and requires detailed knowledge of the standard. As such, it is the responsibility of the owner/operator of an ASV found to be governed by 30 TAC Chapter 338 and API standard 2350 to utilize the text of the

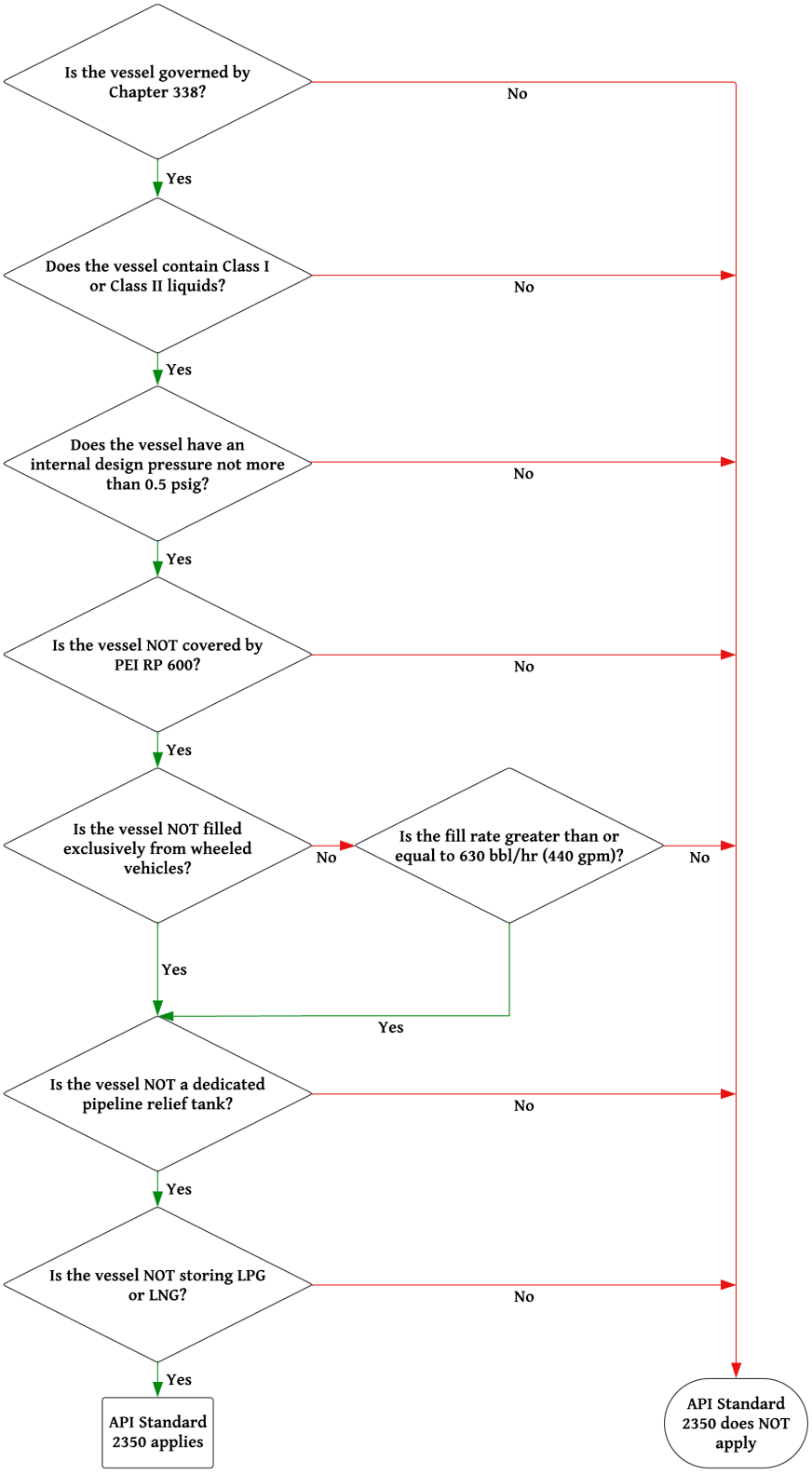
detailed standard for determining compliance. See Appendix B for instructions on purchasing the standards on the API website.

API Standard 2350 Applicability

The standard applies to all atmospheric ASVs as defined in 30 TAC 338.2 with an internal design pressure of not more than 0.5 pounds per square inch gauge (psig) containing NFPA Class I (flash point below 100°F) or Class II (flash point at or above 100°F and below 140°F) liquids that meet the applicability of API 2350.

In addition to the applicability criteria below, the standard identified in this section is only applicable when the vessel meets the definition of an ASV as defined in 30 TAC 338.2.

Figure 5. API Standard 2350 Applicability Flowchart



API Standard 2350 Section 4 Overfill Prevention System

This section provides a detailed framework for implementing an OPS to prevent tank overfill incidents in ASVs under 30 TAC Chapter 338. It covers management requirements, risk assessment, operational parameters, and the procedures essential to ensure compliance with API Standard 2350, aligning with the overall safety goals of the ASVS program.

Owner/Operator Overview

The API Standard 2350 applies to bulk storage tanks exceeding 1,320 U.S. gallons (5,000 liters) that store Class I or Class II petroleum liquids. This standard is designed to ensure safe shut-down procedures during receipt or transfer operations to prevent tank overfill incidents. API Standard 2350 provides a structured approach to help facilities meet compliance requirements by implementing an Overfill Prevention Process (OPP).

Responsibility for compliance with the standard lies with the facility owner or operator, recognizing the unique conditions at each site. When addressing ambiguous aspects of the standard, operators are encouraged to seek expert consultation in areas such as controls automation, systems integration, tank gauging, and environmental compliance.

API Standard 2350 Section 4.1 Overview

Implementing an OPS requires a multi-faceted approach that considers tank-specific risks, equipment functionality, and human intervention capabilities. For details on how to implement the required OPS, consult API 2350 Section 4. A comprehensive approach to overfill prevention is intended to enhance safety and environmental protection, optimize operational practices, reduce risks through systematic inspection and testing, and incorporate advanced process controls where applicable.

API Standard 2350 Section 4.2 Requirements for the Management System

API 2350 Section 4.2 outlines the key responsibilities of facility owners and operators in preventing overfills at ASTs via an OPS management system. It establishes the need for a formalized OPP, including risk assessments, defining operational parameters, and ensuring proper communication between all parties involved in tank filling operations. This section emphasizes accountability, procedural controls, and the importance of adhering to safety standards to minimize overfill risks. This management system should be implemented and documented by the owner/operator to meet or exceed the minimum requirements presented in API 2350 Section 4.2.

API Standard 2350 Section 4.3 Requirements for Risk Assessment

A risk assessment is required for each ASV subject to overfill risks. The assessment process should be comprehensive, addressing specific risks, system effectiveness, and potential overfill consequences, as presented in API 2350 Section 4.3.

API Standard 2350 Section 4.4 Defining Operating Parameters

Establishing operational parameters involves defining Levels of Concern (LOCs) for each tank to prevent overfill incidents, determining appropriate response times, and ensuring periodic reviews to maintain safety and compliance. LOCs provide reference levels for alerting and initiating response actions. Each LOC level requires specific actions to ensure that tanks are filled within safe limits. The process for developing and implementing these parameters are presented in API 2350 Section 4.4.

API Standard 2350 Section 4.4.1 Establishing LOCs

This section defines key tank liquid levels, maximum working level, and other critical thresholds that require operational controls to prevent overfills.

API Standard 2350 Section 4.4.2 Response Time

This section specifies the time required for personnel to take corrective action when an alarm is triggered, ensuring a safe margin before reaching a critical level. Response time depends on numerous factors presented in API 2350 Section 4.4.2.

API Standard 2350 Section 4.4.3 Level of Concern Changes and Periodic Reviews

This section requires facilities to periodically review and, if necessary, update their LOCs based on operational changes, past incidents, or risk assessments to ensure continued effectiveness of overfill prevention measures.

API Standard 2350 Section 4.5 Requirements for OPS Procedures

The owner/operator must establish detailed procedures covering all phases of tank filling and overfill prevention, as presented in API 2350 Section 4.5.

API Standard 2350 Section 4.5.1 Procedures for Operations

This section requires facilities to establish and document operating procedures that support overfill prevention. These procedures must cover numerous topics including, but not limited to, routine tank filling operations, alarm response actions, communication protocols, and emergency measures.

API Standard 2350 Section 4.5.2 Procedures for Training on OPS

This section requires facilities to establish training procedures to ensure that personnel understand and can effectively operate the OPS. Training must cover numerous topics and establish competency assessments to promote awareness and preparedness for overfill prevention.

API Standard 2350 Section 4.5.3 Procedures for Testing, Inspection, and Maintenance of the Equipment of an OPS

This section requires facilities to establish procedures for the testing, inspection, and maintenance of OPS equipment. These procedures ensure all components function reliably and accurately.

API Standard 2350 Section 4.5.4 Training for Testing, Inspection, and Maintenance of Overfill Prevention Systems

This section requires facilities to provide training for personnel responsible for testing, inspecting, and maintaining the OPS. The training is to ensure personnel understand proper procedures, recognize potential failures, and can accurately assess system performance.

API Standard 2350 Section 4.5.5 Proof Test Documentation

This section specifies the requirements for documentation related to testing.

API Standard 2350 Section 4.5.6 Tank Alarm Records

This section specifies the requirements for documentation related to tank alarms, Automated Overfill Prevention Systems (AOPS), and overfill spills.

API Standard 2350 Section 5 Overfill Prevention Systems

This section defines the types of OPS essential for preventing overfill incidents in ASVs as outlined in API Standard 2350, Section 5. The OPS type selected, along with the associated instrumentation and control requirements, ensures that ASVs operate safely and within compliance limits under 30 TAC Chapter 338. API 2350 Section 5 details Manual and AOPS, tank category criteria, specific instrumentation requirements, and additional security and control considerations.

API Standard 2350 Section 5.1 Types of Overfill Prevention Systems

OPS can be implemented in two primary configurations – Manual Overfill Prevention Systems (MOPS) and AOPS. Guidelines on utilization of both systems are presented in API 2350 Section 5.1.

API 2350 Section 5.2 Tank Category Criteria

Tank category criteria, as outlined in API 2350, is used to determine the level of instrumentation, monitoring, and operator attendance required based on the tank's operational risk. Each category balances the use of instrumentation, monitoring requirements, and staffing needs to ensure safe ASV operation.

API Standard 2350 5.2.1 Category 0 Facility

This section defines the requirements associated with operating a Category 0 facility. These facilities perform filling operations that are continuously attended and

controlled by facility personnel without reliance on AOPS. Safe operations depend on well-defined procedures, trained personnel, and effective communication.

API Standard 2350 5.2.2 Category 1 Facility

This section defines the requirements associated with operating a Category 1 facility. These facilities rely on operational procedures and human oversight rather than AOPS. Proper training, clear communication, and defined response actions are critical to ensuring safe operations.

API Standard 2350 5.2.3 Category 2 Facility

This section defines the requirements associated with operating a Category 2 facility. These facilities have limited manual monitoring during filling operations and rely on AOPS. While personnel may not continuously attend tank filling, they must be able to respond promptly to alarms and take corrective actions. Regular testing and maintenance of the OPS are essential to ensure reliability.

API Standard 2350 5.2.4 Category 3 Facility

This section defines the requirements associated with operating a Category 3 facility. These facilities have minimal or no manual monitoring during filling operations and rely entirely on AOPS for safety. Since personnel are not present to manually intervene, the reliability, testing, and maintenance of the AOPS are critical to ensuring safe operations.

API Standard 2350 5.2.5 AOPS

This section allows facilities to utilize AOPS for additional levels of protection.

API Standard 2350 Section 5.3 Instrumentation and Equipment Used for Overfill Prevention

API 2350 Section 5.3 outlines the equipment requirements for OPS in ASTs. This section specifies the types of equipment needed to monitor tank levels, trigger alarms, and, if applicable, initiate automatic shutdowns. It ensures that equipment is properly designed, installed, and maintained to function reliably in preventing overfills.

API Standard 2350 Section 5.3.1 General Requirements for Instruments and Equipment Used for Overfill Prevention

The section outlines the general equipment used in OPS. It emphasizes that all equipment must be properly designed and installed to specifications from the suppliers.

API Standard 2350 Section 5.3.2 Alarm

This section outlines the requirements for alarm systems used in OPS. Alarms serve as critical warnings to notify operators of abnormal situations and the need for

immediate action. This section ensures that alarm systems are designed, implemented, and maintained to provide effective warnings and support safe tank operations.

API Standard 2350 Section 5.3.3 Alerts

This section defines the use of alerts in OPS. Alerts are not required but may serve as early warnings before reaching critical tank levels, allowing operators to take preventive action before an alarm is triggered.

API Standard 2350 Section 5.3.4 Power and Electrical Reliability

This section specifies requirements to ensure that the OPS remains operational during power disruptions.

API Standard 2350 Section 5.3.5 Automated/Manual Valve Closure—Hydraulic Surge/Water Hammer Effect

This section addresses the potential for hydraulic surge or water hammer effects when closing valves during overfill prevention operations. The information provided helps to ensure that valve operation in OPS is designed to prevent unintended mechanical or structural damage due to hydraulic effects.

API Standard 2350 Section 5.3.6 Security

This section states that security provisions shall be in place to protect the OPS from unauthorized interference or manipulation.

NFPA 30 Chapter 22 Flammable and Combustible Liquids Code and API Recommended Practice 2001 Fire Protection in Refineries

This section provides guidance on fire safety and emergency venting requirements for ASVs in 30 TAC 338.5(b)(5) and (6). These requirements reference National Fire Protection Association (NFPA) 30, Chapter 22.8 and American Petroleum Institute Recommended Practice (API RP) 2001. These requirements ensure that ASVs storing flammable or combustible liquids are equipped to mitigate fire risks and prevent vessel rupture under emergency conditions, such as exposure to external heat or fire.

Note: NFPA 30 Chapter 22.8, 2021 Edition, and API RP 2001, 10th Edition, July 2019, are the applicable versions with respect to 30 TAC Chapter 338. This guidance addresses the applicability of these standards with respect to 30 TAC Chapter 338 only. Additionally, the information provided within are overviews of NFPA 30 Chapter 22.8 and API RP 2001 as they apply to ASVs that are found to meet the 30 TAC Chapter 338 applicability. These standards are highly prescriptive and require detailed knowledge of the codes. As such, it is the responsibility of the owner/operator of an ASV found to be governed by 30 TAC Chapter 338 to utilize the detailed codes for determining compliance. See Appendix B for instructions on purchasing the standards on the API website. Appendix C provides instructions on

purchasing the standards or free viewing online with an NFPA account on the NFPA website.[19]

NFPA 30 Chapter 22 Section 8 and API RP 2001 Applicability

The fire suppression requirements in 30 TAC 338.5(b)(5) allow owners/operators to either install a fire extinguishing system under NFPA 30, Chapter 22, Section 22.8, as described in the previous section, or elect to follow API RP 2001 Sections 5 through 11, but it is not required to implement both standards. Under 30 TAC 338.5(b)(6), API RP 2001 applies to all ASVs for which a fire suppression system has not been installed under 30 TAC 338.5(b)(5). See Table 1: *Applicable Safety Standards Based on the Type of Facility* for more details regarding the implementation options.

In addition to the applicability criteria below, the standards identified in this section are only applicable when the vessel meets the definition of an ASV as defined in 30 TAC 338.2.

TCEQ recognizes that API RP 2001 is not intended to be universally applicable to ASVs and that certain refinery-specific provisions are not suitable for non-refinery facilities. Where API RP 2001 does not provide applicable guidance, facilities shall follow NFPA 30 (Flammable and Combustible Liquids Code) if applicable. This guidance does not constitute a formal determination of enforceable requirements but is intended to provide clarity and guidance until TCEQ amends 30 TAC 338.5(b)(6).

Table 1: Applicable Safety Standards Based on the Type of Facility

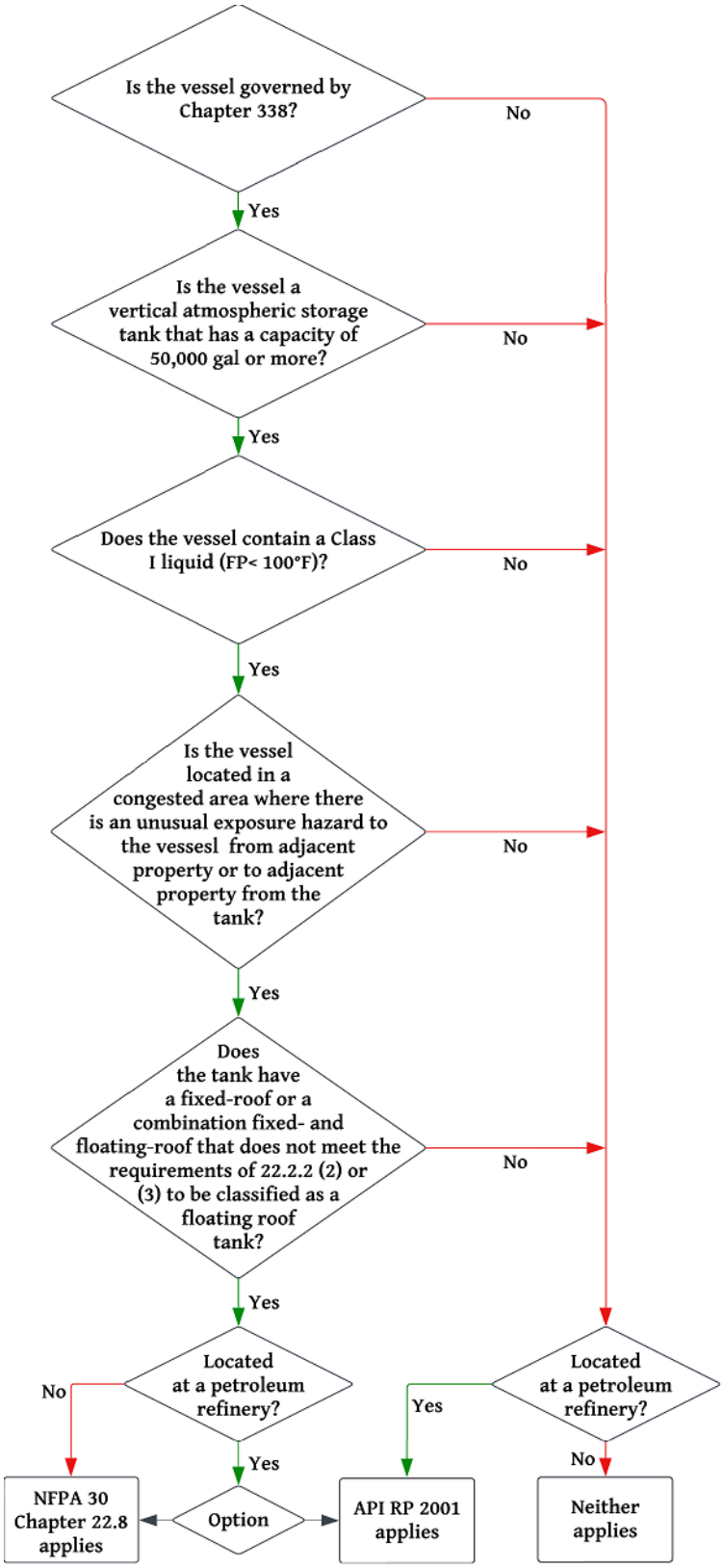
Is NFPA 30 Applicable?	Located at Petroleum Refinery?	Implementation Option
Yes	Yes	NFPA 30 or API RP 2001
Yes	No	NFPA 30
No	Yes	API RP 2001
No	No	N/A

NFPA 30 Chapter 22 Section 8 applies to all ASVs as defined in 30 TAC 338.2 that additionally meet the following criteria:

- The ASV is a vertical atmospheric storage tank with a capacity of at least 50,000 gallons.
- The ASV contains a Class I liquid
- Flash Point is < 100˚F.
- The tank is located in a congested area where there is an unusual exposure hazard to the tank from adjacent property or to adjacent property from the tank.

19. www.nfpa.org/for-professionals/codes-and-standards/list-of-codes-and-standards/free-access

Figure 6. NFPA 30 Chapter 22.8/API RP 2001



NFPA 30 Chapter 22 Section 8 Fire Protection for Aboveground Storage Tanks

A fire-extinguishing system in accordance with an applicable NFPA standard shall be provided or made available for an ASV that is governed by 30 TAC Chapter 338 and NFPA Chapter 22 Section 8. Details for implementation are provided in the code, with references to NFPA 11 and NFPA 15, depending on the system being implemented.

API Recommended Practice 2001 Owner/Operator Overview

As with many of the regulations referenced in 30 TAC Chapter 338, API RP 2001 is prescriptive in its recommendations. As such, many tasks require varying degrees of expertise to complete. Final responsibility is placed on the owner/operator to ensure the tasks are completed in a safe, timely, and thorough manner. Brief descriptions of the tasks expected of the owner/operator in API RP 2001 are presented in the following sections, but the complete text of API RP 2001 should be used to ensure compliance.

API Recommended Practice 2001 Section 5 Fire Consideration in Refinery Design

API RP 2001 Section 5 provides guidance for incorporating fire prevention measures during the design, upgrade, and expansion of refineries. The recommendations address key areas that impact the likelihood and consequences of potential fires. For the purpose of compliance with 30 TAC 338, specific API RP 2001 requirements related to new construction, upgrades, or expansions are not applicable to existing ASVs constructed prior to Sept. 1, 2027.

API RP 2001 Section 5.1 General

This section provides a general overview of fire prevention and mitigation principles for refining facilities. It emphasizes the importance of identifying fire hazards, implementing preventive measures, and maintaining emergency preparedness.

API RP 2001 Section 5.2 Hazard Analysis

This section outlines the process for conducting a hazard analysis to identify and evaluate fire risks in petroleum facilities. It emphasizes assessing potential ignition sources, flammable materials, and operational conditions that could lead to a fire. The section also highlights the importance of reviewing historical incidents, facility layout, and process conditions to implement effective fire prevention and mitigation strategies.

API RP 2001 Section 5.3 Process Design

This section emphasizes that fire prevention should be integrated into facility process design to minimize fire risks. It covers key design considerations that can aid in minimizing the impact of storage and release of materials. This section highlights the importance of proactive design choices to enhance fire safety in petroleum facilities.

API RP 2001 Section 5.4 Equipment Design

This section discusses the importance of operational requirements and fire prevention when considering equipment design and selection. This section provides guidance related to numerous pieces of process equipment and ancillary supplies to ensure they are appropriate for the service requested and meet industry code. Additionally, emphasis is placed on the need for knowledgeable personnel in making design decisions.

API RP 2001 Section 5.5 Location

This section emphasizes that the physical location of equipment geographically plays a role in fire prevention considerations. Climate, geography, water availability, and local resources should be considered when designing and implementing hazard evaluation.

API RP 2001 Section 5.6 Layout and Spacing

The section provides guidance on facility layout and equipment spacing to reduce fire risks, prevent escalation, and ensure safe emergency response. Proper layout enhances safety by minimizing fire spread, allowing adequate access for firefighting, and ensuring personnel can evacuate safely. Proper facility layout and spacing improve fire safety by ensuring controlled separation of hazardous areas, safe access for emergency response, and reduced risk of fire escalation.

API RP 2001 Section 5.7 Fireproofing

This section emphasizes the importance of fireproofing as a protective measure to ensure structural integrity during a fire. Fireproofing helps maintain equipment stability, allows for emergency shutdown, and prevents the addition of fuel to a fire.

API RP 2001 Section 5.8 Pressure Relief and Flare Systems

This section provides guidance, utilization, and design considerations for pressure relief and flare systems, which are essential for controlling overpressure events and safely disposing of gaseous emissions. Proper pressure relief and flare system design enhances facility safety by preventing overpressure failures, controlling emissions, and ensuring safe gas disposal.

API RP 2001 Section 5.9 Drainage, Containment, and Waste Disposal

This section provides guidance on drainage, containment, and waste disposal to minimize fire risks and environmental hazards associated with hydrocarbon spills and firewater runoff. Proper design ensures that spills are controlled and directed away from critical equipment and personnel. Properly designed drainage and containment systems help prevent fire escalation, control hydrocarbon spills, and ensure compliance with environmental and safety regulations.

API RP 2001 Section 5.10 Power and Utilities

This section provides guidance on ensuring reliable power and utility services to maintain safe facility operations and minimize fire risks. A well-designed power and utility infrastructure supports emergency response, process stability, and fire prevention. This section focuses on the importance of reliable electrical, steam, water, and communications systems. A well-maintained power and utility system enhances facility safety by ensuring continuous operation, reducing fire risks, and supporting emergency response efforts.

API Recommended Practice 2001 Section 6 Fire Control and Extinguishing Equipment

API RP 2001 Section 6 addresses the fire control and suppression requirements for ASV facilities. Effective fire suppression systems are crucial for protecting ASV facilities from fire damage, reducing escalation, and ensuring safe operations. The guidance covers the selection, design, and operation of firefighting equipment and systems applicable to ASVs, emphasizing readiness and reliable operation to comply with 30 TAC Chapter 338. See API RP 2001 Section 6 for details and guidance.

API RP 2001 Section 6.1 General

This section provides a general overview of fire control and extinguishing equipment used in refineries. Information about basic firefighting equipment categories and how they vary. The goal of effective fire control is to extinguish fires quickly, prevent escalation, and protect personnel and property.

API RP 2001 Section 6.2 Water for Fire Suppression

This section emphasizes the critical role of water as a primary fire suppression agent in refineries, highlighting its effectiveness in cooling, smothering flames, and preventing fire escalation. It provides guidance on maintaining a reliable water supply, ensuring adequate distribution through fire mains and hydrants, and applying water strategically to protect equipment and contain fires. Proper system design, maintenance, and operational readiness are essential to ensuring water-based firefighting measures remain effective in facility fire protection.

API RP 2001 Section 6.3 Foam

This section discusses the use of firefighting foam as an effective agent for suppressing flammable liquid fires by forming a vapor-sealing blanket that smothers flames and prevents reignition. It highlights different types of foam, their application methods, and the importance of maintaining adequate foam supplies. The section also addresses environmental considerations related to foam use and disposal, emphasizing the need for proper selection and management of foam concentrates.

API RP 2001 Section 6.4 Dry Chemicals

This section covers the application of dry chemical agents for fire suppression in refineries, highlighting their ability to disrupt the combustion process and quickly

extinguish small spill fires, jetting fuel fires, and fires involving electrical equipment. Dry chemicals are effective when used alone or in combination with water fog or foam. Portable and stationary dry chemical extinguishers must be strategically placed for accessibility, and their use should be supplemented by training and proper maintenance.

API RP 2001 Section 6.5 Combined (Dual) Agents

This section discusses the use of combined (dual) agent systems, which integrate dry chemical agents with foam for enhanced fire suppression. These systems allow for simultaneous or alternate application, improving fire knockdown capability and reducing the risk of reignition. Dual-agent systems can extend the range of dry chemical applications by using foam streams for better coverage and visibility. The selection and compatibility of agents and equipment should be verified with the foam supplier to ensure effectiveness.

API RP 2001 Section 6.6 Clean Agent Fire Extinguishing

This section covers clean agent fire suppression systems, which use gaseous agents such as halocarbons and inert gases to extinguish fires in enclosed spaces where water-based suppression is impractical. The section emphasizes system design considerations, enclosure integrity, and safety measures to prevent asphyxiation hazards. Regulatory guidance, including NFPA 2001 and EPA regulations, is provided for selecting appropriate clean agents.

API Recommended Practice 2001 Section 7 Operating Practices

API RP 2001 Section 7 outlines the standard operating procedures (SOPs) and emergency operating procedures (EOPs) required for ASV facilities. Establishing and following detailed procedures for normal and emergency operations is essential to manage fire and safety risks associated with ASVs and ensure regulatory compliance. See API RP 2001 Section 7 for details and guidance.

API RP 2001 Section 7.1 General

This section emphasizes the importance of SOPs and EOPs in ensuring fire safety in facility operations. It highlights the need for regular review and adherence to procedures, personnel training on fire safety responsibilities, and proactive identification of abnormal conditions such as leaks, equipment malfunctions, or unauthorized activities. A clear set of expectations ensures all personnel understand their roles in maintaining safe operations.

API RP 2001 Section 7.2 Normal Operation

This section outlines fire and loss prevention measures that should be incorporated into daily facility operations. It emphasizes the importance of proper operating procedures for fired equipment, static charge control, electrical grounding, housekeeping, and fire safety systems maintenance. Procedures for material transfers, storage of flammable liquids, and proper identification of critical equipment are also highlighted. Safe work permits should be issued for specific high-risk activities, and

personnel should be trained to follow established safety protocols to minimize fire hazards.

API RP 2001 Section 7.3 Emergency Operation

This section highlights the importance of pre-incident planning and EOPs to manage fires, explosions, and gas releases effectively. It emphasizes the need for personnel training on emergency roles, understanding flare and relief system limitations, and ensuring rapid notification of affected parties. The section also outlines the importance of management systems to address emergency scenarios such as power loss, extreme weather, and security threats, ensuring that facility operations can respond efficiently to minimize risks and maintain safety.

API RP 2001 Section 7.4 Loss of Containment

This section emphasizes the importance of containing leaks and releases to prevent fires and protect personnel and the environment. It outlines key response actions, including isolating the fuel source, containing hazardous materials, mitigating ignition risks, and deploying firefighting foam for vapor suppression. Proper management of liquid and gas leaks, along with proactive mitigation strategies, helps minimize risks associated with hydrocarbon or chemical releases.

API Recommended Practice 2001 Section 8 Maintenance Procedures

API RP 2001 Section 8 outlines the fire prevention measures for maintenance and repair activities at ASV facilities, with a focus on planning, operational protocols, and special considerations during cold weather conditions. Proper planning and execution of maintenance, especially when dealing with flammable materials and hot work, are essential to minimizing fire hazards. See API RP 2001 Section 8 for details and guidance.

API RP 2001 Section 8.1 General

This section emphasizes the importance of fire prevention during maintenance, repair, and demolition activities in facility operations. It highlights the need for careful planning, isolation of hazardous materials, and implementation of safety procedures before conducting work. Proper hydrocarbon-freeing techniques, such as blinding, purging, steaming, and inerting, are essential to reducing fire risks. Additionally, the section underscores the importance of good housekeeping, proper waste disposal, and maintaining clear work areas to minimize ignition hazards.

API RP 2001 Section 8.2 Hot Work

This section provides guidelines for hot work activities, including welding, cutting, brazing, and other flame- or spark-producing operations in facilities. It emphasizes the need for hot work permits, proper planning, and strict supervision to minimize fire risks. Special precautions must be taken when conducting hot work near hydrocarbon-containing equipment, and alternatives such as cold cutting should be considered when feasible. The section also highlights the importance of flammability monitoring,

proper isolation of ignition sources, and adherence to regulatory requirements to ensure a safe working environment.

API RP 2001 Section 8.3 Planned Maintenance Activities

This section outlines the importance of planned maintenance activities in fire prevention, emphasizing the need for documented procedures, up-to-date engineering records, and adherence to safety protocols. Key considerations include proper inspection and repair of pressure vessels, piping, and tanks, as well as implementing safe work authorization, grounding, and bonding procedures. Ensuring proper maintenance of critical safety equipment and compliance with regulatory standards helps minimize fire hazards and maintain operational integrity.

API RP 2001 Section 8.4 Winterizing and Freeze Protection

This section emphasizes the importance of winterizing and freeze protection measures to ensure fire protection systems remain functional in cold weather. It highlights best practices for preventing freezing in water-based systems, maintaining system integrity, and implementing monitoring procedures to address potential cold-weather hazards. Proper planning and regular maintenance help ensure reliability and compliance during winter conditions.

API Recommended Practice 2001 Section 9 Emergency Response Organization

API RP 2001 Section 9 provides guidance on establishing an emergency response and incident command system (ICS) for ASV facilities to manage fire incidents and related emergencies effectively. Facilities should ensure personnel are properly trained, equipped, and ready to implement response procedures aligned with OSHA regulations and other relevant standards. See API RP 2001 Section 9 for details and guidance.

API RP 2001 Section 9.1 General

The section discusses the importance of establishing and maintaining an effective emergency response organization to manage fire incidents and other emergencies.

API RP 2001 Section 9.2 Incident Command System (ICS)

This section outlines the importance of the Incident Command System (ICS) in organizing and managing emergency response efforts. It emphasizes a clear chain of command, defined roles and responsibilities, and effective coordination among response teams. Proper implementation of ICS enhances communication, resource allocation, and overall emergency response efficiency.

API RP 2001 Section 9.3 Duties of Fire Protection Staff

This section defines the responsibilities of fire protection staff in ensuring a safe and effective emergency response. It emphasizes the importance of clearly assigned roles, coordination with emergency teams, and maintaining readiness through regular

training and equipment checks. Proper execution of these duties supports efficient fire prevention and response efforts.

API RP 2001 Section 9.4 Notification Procedures

This section highlights the critical need for clear and efficient notification procedures during fire emergencies. It covers the importance of timely communication, proper reporting channels, and established protocols to ensure a swift and coordinated response. Effective notification procedures help minimize delays and improve overall incident management.

API RP 2001 Section 9.5 Firefighter Selection and Training

This section focuses on the selection and training of firefighters to ensure they are adequately prepared for emergency situations. It emphasizes qualifications, ongoing education, and practical drills to enhance skills and readiness. Proper training ensures that firefighters can respond effectively and safely to various fire scenarios.

API RP 2001 Section 9.6 Incident Commander

This section defines the role of the Incident Commander in leading and managing emergency response operations. It highlights the importance of decision-making, coordination of resources, and maintaining control over the incident scene. An effective Incident Commander ensures an organized and efficient response to fire emergencies.

API RP 2001 Section 9.7 Firefighter Personal Protective Clothing and Equipment

This section underscores the importance of appropriate personal protective clothing and equipment for firefighters. It covers the selection, maintenance, and proper use of protective gear to ensure firefighter safety during emergency operations. Adhering to these standards helps reduce risks and enhances overall fire response effectiveness.

API Recommended Practice 2001 Section 10 Training for Firefighting

Emergency response training is essential to ensure personnel are well-prepared to manage fire incidents safely and effectively without unnecessary risks to responders. API RP 2001 Section 10 outlines the requirements and guidance for developing and maintaining a comprehensive emergency response training program, which includes written policies, hands-on training, simulation drills, classroom instruction, psychological preparation, and documentation requirements. Training must align with appropriate OSHA and NFPA guidelines to ensure compliance with best practices. See API RP 2001 Section 10 for details and guidance.

API RP 2001 Section 10.1 General

This section highlights the importance of structured training programs to ensure emergency responders are adequately prepared for fire-related incidents. It emphasizes the need for a combination of theoretical instruction and practical

exercises to develop the necessary skills, knowledge, and confidence required for effective fire response. Proper training enhances safety, coordination, and overall emergency preparedness.

API RP 2001 Section 10.2 Drill Ground Training

This section focuses on hands-on training conducted in a controlled environment to simulate real-world fire scenarios. It emphasizes the importance of practicing fire suppression techniques, equipment operation, and teamwork under realistic conditions. Regular drill ground exercises help improve response efficiency and ensure personnel are familiar with emergency procedures.

API RP 2001 Section 10.3 Classroom Instruction

This section outlines the role of classroom-based training in providing foundational knowledge on fire behavior, hazard recognition, and response strategies. It stresses the importance of structured learning to complement practical exercises, ensuring that personnel understand fire dynamics, safety protocols, and decision-making processes critical to emergency response.

API RP 2001 Section 10.4 Overcoming Personal Concerns

This section addresses the physical and psychological challenges that firefighters may encounter during emergency response. It highlights the need for training programs to include methods for managing fear, stress, and fatigue to improve confidence and performance in high-pressure situations. Proper preparation helps firefighters remain focused and effective during emergencies.

API RP 2001 Section 10.5 Documentation

This section emphasizes the importance of maintaining accurate records of training activities to ensure compliance with regulatory requirements and continuous skill development. It highlights the need for documenting training sessions, certifications, and refresher courses to track personnel readiness and support ongoing improvement in emergency response capabilities.

API Recommended Practice 2001 Section 11 Prefire Incident Planning

Pre-incident planning is critical for effective emergency response, minimizing risks to personnel and property. API RP 2001 Section 11 outlines the recommended structure for developing a prefire plan for ASV facilities, providing guidance on the identification of hazards, coordination of resources, and establishment of response procedures. Each facility's prefire plan should be tailored to its specific operations, hazards, and organization, ensuring it aligns with the existing facility structure to prevent disruption during emergencies. See API RP 2001 Section 11 for details and guidance.

API RP 2001 Section 11.1 General

This section emphasizes the importance of prefire incident planning to enhance emergency preparedness and response effectiveness. It highlights the need for coordination between facility personnel and emergency responders, ensuring that potential fire hazards, response strategies, and resource requirements are well understood. Proper planning improves situational awareness, reduces response time, and helps mitigate risks associated with fire incidents.

API RP 2001 Section 11.2 Prefire Incident Planning

This section focuses on the development of detailed prefire plans tailored to facility-specific risks. It stresses the importance of identifying fire hazards, mapping critical infrastructure, and establishing emergency response procedures. Regular reviews and updates to prefire plans, along with training exercises, ensure that personnel remain familiar with response protocols and can act swiftly in an emergency.

Additional Requirements for ASVs Placed Into Service After Sept. 1, 2027

Under 30 TAC Chapter 338, ASVs placed into service after Sept. 1, 2027, must comply with all performance and safety standards listed in 30 TAC 338.5 as described in the previous sections. In addition to the 30 TAC 338.5 requirements for existing ASVs, 30 TAC 338.5(c) applies to ASVs placed into service after Sept. 1, 2027, which must also comply with API 650 standards for material, design, fabrication, and inspection, as well as NFPA 30, Section 22.4, which governs the location of ASVs. This ensures compliance with safety regulations for ASVs and alignment with current industry standards.

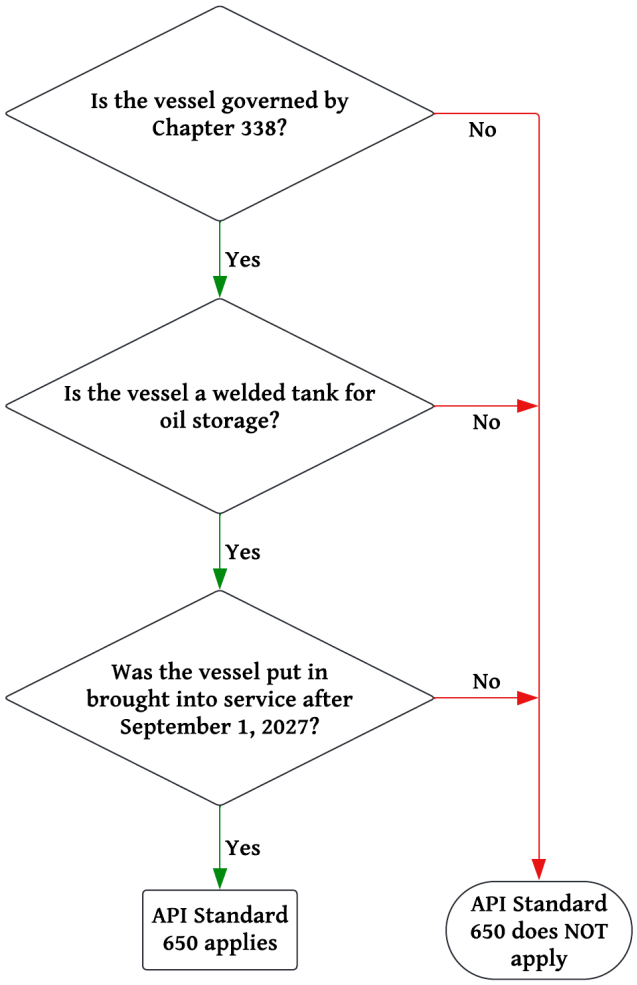
Note: NFPA 30 Chapter 22.4, 2021 Edition, and API 650, 13th Edition, March 2020 (Errata 1, January 2021), are the applicable versions with respect to 30 TAC Chapter 338. See Appendix B for instructions on purchasing the standards on the API website. Appendix C provides instructions on purchasing the standards or free viewing online with an NFPA account on the NFPA website.

API Standard 650 Applicability

The standard applies to all ASVs as defined in 30 TAC 338.2 that are welded tanks for the storage of oil/petroleum liquids at low temperature and pressure and are placed into service after Sept. 1, 2027, except where allowed by API 650 (see standard for details).

In addition to the applicability criteria below, the standard identified in this section is only applicable when the vessel meets the definition of an ASV as defined in 30 TAC 338.2.

Figure 7. API Standard 650 Applicability Flowchart



API Standard 650 Owner/Operator Overview

API Standard 650, Welded Tanks for Oil Storage, specifies the design, construction, and inspection requirements for ASTs. While much of the standard addresses the responsibilities of tank designers, constructors, and inspectors, there are key tasks explicitly or implicitly required of the owner/operator to ensure compliance and safe operation of tanks. As such, see API Standard 650 for guidance and details.

API Standard 650 Welded Tanks for Oil Storage

API 650, developed by the American Petroleum Institute, establishes the design, construction, maintenance, and inspection standards for welded steel storage tanks used in oil and other hazardous materials storage. The standard aims to ensure that ASVs meet rigorous safety and performance requirements to prevent leaks, structural failure, and environmental harm. It is essential for ASVs regulated under 30 TAC Chapter 338, particularly those put into service after Sept. 1, 2027, as these must comply with API 650 standards. API Standard 650 is very prescriptive and requires intimate knowledge of the code. As such, it is the responsibility of the owner/operator

of a vessel found to be governed by 30 TAC Chapter 338 and API standard 650 to utilize the detailed code for determining compliance.

API Standard 650 Section 1 Scope

API 650 establishes the requirements for the design, fabrication, erection, and inspection of welded steel storage tanks used in the petroleum and chemical industries. The standard applies to tanks with a maximum internal pressure of 2.5 pounds per square inch and provides guidelines for ensuring structural integrity, operational safety, and environmental protection. It sets forth criteria for material selection, design methods, and construction practices to ensure uniformity and reliability in tank construction.

API Standard 650 Section 2 Normative References

This section lists essential industry standards, codes, and references that must be adhered to when constructing API 650-compliant storage tanks. These references include other API standards, American Society for Testing and Materials (ASTM) material specifications, American Society of Mechanical Engineers (ASME) codes for welding and pressure vessels, and various regulatory guidelines. Compliance with these standards ensures consistency in design, manufacturing, and inspection processes across the industry.

API Standard 650 Section 3 Terms and Definitions

This section provides definitions for key terms used throughout the standard to ensure consistent interpretation and application. These definitions cover technical terminology related to tank construction, materials, welding, inspection, and safety requirements. Having standardized definitions helps prevent misinterpretations and ensures that all stakeholders involved in tank design and construction are aligned.

API Standard 650 Section 4 Materials

This section specifies the material requirements for tank components, including plates, structural shapes, pipes, and welding materials. It ensures that selected materials are suitable for the intended service conditions, considering factors such as strength, corrosion resistance, and temperature limitations. API 650 outlines acceptable material grades and their testing requirements to guarantee reliability and durability in storage tank construction.

API Standard 650 Section 5 Design

This section establishes the fundamental design requirements for storage tanks, including shell thickness, roof configurations, bottom plate arrangements, and load considerations such as wind, seismic, and hydrostatic pressures. The section provides equations and criteria for determining tank dimensions and strength to withstand internal and external forces. These design requirements ensure the safe operation of tanks while minimizing risks of structural failure.

API Standard 650 Section 6 Fabrication

This section outlines the processes involved in manufacturing tank components, including cutting, forming, and welding. It provides guidelines on material preparation, weld joint configurations, and dimensional tolerances to ensure uniformity and high-quality construction. Adherence to these fabrication standards helps maintain the structural integrity of the tank and ensures compliance with API 650 requirements.

API Standard 650 Section 7 Erection

This section details the procedures for assembling and installing tanks at the construction site. It covers foundation preparation, shell and roof assembly, welding practices, and alignment checks. Proper erection methods are critical to ensuring the tank's stability and longevity. API 650 also includes requirements for field inspections to verify compliance with design and fabrication specifications.

API Standard 650 Section 8 Methods of Examining Joints

This section defines acceptable inspection and testing methods to evaluate the quality of welded joints. These methods include radiographic, ultrasonic, magnetic particle, liquid penetrant, and visual examinations. The section establishes acceptance criteria for weld integrity, ensuring that tanks meet required safety and performance standards before being placed into service.

API Standard 650 Section 9 Welding Procedure and Welder Qualifications

This section specifies requirements for welding procedures, welder qualifications, and quality control measures. It ensures that welding is performed using approved methods and that welders have undergone the necessary testing and certification. Adhering to these standards helps maintain the structural integrity and leak resistance of storage tanks.

API Standard 650 Section 10 Marking

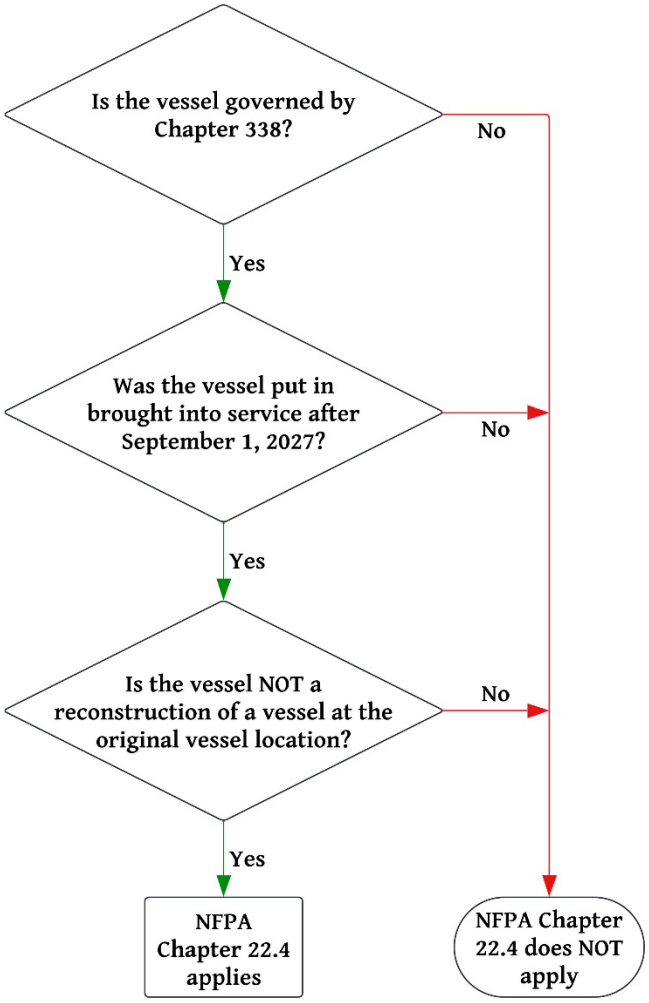
This section requires tanks to be marked with nameplates containing essential information such as manufacturer details, tank design data, and compliance certification. Proper marking ensures traceability, verification of compliance with the standard, and easy identification of tank specifications for future inspections and maintenance.

NFPA 30 Section 22 Chapter 4 Applicability

The standard applies to all ASVs as defined in 30 TAC 338.2 and placed into service after Sept. 1, 2027.

In addition to the applicability criteria below, the standard identified in this section is only applicable when the vessel meets the definition of an ASV as defined in 30 TAC 338.2.

Figure 8. NFPA Chapter 22.4 Applicability Flowchart



NFPA 30 Chapter 22 Section 4 Location of Aboveground Storage Tanks

Section 22.4 of NFPA 30 is designed to ensure ASVs are located in a manner that minimizes fire risks to nearby structures, property lines, and public ways. Historically, large spacing requirements were intended to prevent fire spread between tanks, particularly when tanks used combustible roof materials. With modern steel tank roofs and improved fire protection, these spacing rules have evolved to allow safer, more efficient site planning, often based on tank diameter and storage capacity, except where emergency venting criteria apply. Within this framework, the owner/operator has specific responsibilities related to compliance, maintenance, and operational safety. See NFPA 30 Chapter 22.4 for details and guidance.

NFPA 30 Chapter 22 Section 4.1 Location with Respect to Property Lines, Public Ways, and Important Buildings

NFPA 30 Chapter 22 Section 4.1 establishes requirements for the safe placement of ASTs to minimize risks to nearby structures, public areas, and property lines. It emphasizes the importance of proper spacing between tanks and adjacent buildings to

prevent fire spread and ensure emergency accessibility. The section outlines criteria based on tank type, capacity, and stored liquid characteristics, incorporating safety measures such as fire protection for exposures and emergency venting considerations. By adhering to these requirements, facilities can enhance operational safety and reduce potential hazards associated with flammable and combustible liquid storage.

NFPA 30 Chapter 22 Section 4.2 Shell-to-Shell Spacing of Adjacent Aboveground Storage Tanks

NFPA 30 Chapter 22 Section 4.2 provides guidelines for the minimum shell-to-shell spacing between adjacent ASTs to reduce the risk of fire spread and allow safe access for emergency response. The section establishes spacing requirements based on factors such as tank diameter, stored liquid classification, and fire protection measures. Special considerations are included for tanks storing boil-over liquids, unstable liquids, and Class IIIB liquids, with additional requirements for tanks located in diked areas. These spacing provisions help ensure that tank installations are arranged to minimize hazards and enhance fire safety in storage facilities.

Out-of-Service Maintenance Requirements

According to TWC 26.3442(j), the owner or operator of a storage vessel shall comply with the applicable standards for ASVS Program requirements on completion of the next regularly scheduled out-of-service maintenance of the storage vessel that occurs after Sept. 1, 2027. However, all facilities must certify compliance status by no later than Sept. 1, 2037. Any modifications or retrofits necessary for compliance with the applicable standards should be made during these out-of-service maintenance periods unless the owner or operator obtains written approval from the executive director that the necessary modifications or retrofits are not technically feasible.

Waivers

30 TAC Section 338.5(d) provides the requirement that an owner or operator with an ASV subject to the standard in subsection (b) must make any needed modifications or retrofits that are necessary to obtain compliance with the applicable standards in Section 338.5 during the first out-of-service maintenance period for the ASV after Sept. 1, 2027. An owner or operator may request approval for a waiver from the executive director if the necessary modifications or retrofits are not technically feasible.

An owner or operator may also request a waiver for an ASV that was built to an alternative standard not included in Section 338.5 which would be at least as effective for public health and safety. For example, an owner or operator could request a waiver for a vessel that complies with Steel Tank Institute (STI) SP001 instead of API 653. The agency would base approval of the waiver on whether STI SP001 is at least as effective for public health and safety as API 653.

This waiver only applies to modifications or retrofits and does not apply to newly constructed ASVs. It should also be noted as stated in 30 TAC Section 338.21, Certification, that owners or operators of storage vessels brought into service prior to Sept. 1, 2027, must certify compliance with the standards of 30 TAC Section 338.5

upon completion of the next regularly scheduled out-of-service maintenance, but no later than Sept. 1, 2037. Owners or operators of ASVs constructed and brought into service after Sept. 1, 2027, must certify compliance with the 30 TAC Section 338.5 standards no later than 30 days after the start of operation of the ASV. Requesting a waiver will keep an ASV in registered status. Facilities cannot certify an ASV with a waiver request until the facility receives written approval or denial of the waiver from the executive director.

All waiver requests will be subject to a case-by-case review. As with all parts of this waiver request, it is the executive director's role to determine if the owner or operator has provided an adequate demonstration that the necessary modifications or retrofits are not technically feasible.

Waiver Request Submittal Process

Waivers are requested through the ASVS program registration portal in STEERS. Use the drop-down and select "Yes" when questioned if the owner/operator is planning to upload documentation supporting the request for waiver for one or more standards for the vessel. Provide a written request (in MS Word or PDF) and supporting documentation and load it onto STEERS as an attachment for review. The waiver request must be submitted in writing and signed and dated by the Owner or Operator.

1. Written concurrence by the site or facility owner, if different from the tank owner.

2. Complete identification information, including:

    a. facility name, location, and vessel Regulated Entity Number (RN) if known

    b. owner's name, address, and telephone number

    c. name, address, and telephone number of owner's/operator's authorized representative

3. Complete explanation of the reasons why the necessary modifications or retrofits are technically infeasible for the ASV, or why that requirement is considered impracticable.

4. Documentation demonstrates, to the satisfaction of agency staff, that use of the current ASV will be no less protective of human health and safety and the environment than adhering to the requirements for which the waiver is sought.

Inspections

As detailed in 30 TAC 338.7(b), TCEQ may enter at reasonable times into a facility in which an ASV is located to investigate compliance. This may include inspecting and obtaining samples, which will be collected by the owner or operator at the inspector's request, of a regulated substance contained in the ASV. The inspector may conduct monitoring or request that the owner or operator conduct monitoring of the ASV, surrounding soils, air, surface water, or groundwater.

Upon request by the inspector, the owner or operator must furnish information related to the ASV, including ASV equipment and contents, and allow the inspector to have access to and obtain all records relating to the ASV. The inspector may require an owner or operator to conduct monitoring and testing if there is reasonable cause to believe that a release has occurred in an area in which the ASV is located.

TCEQ will develop a detailed inspection process based on the certification template spreadsheet by expanding upon the template's core elements and turning these criteria into specific, actionable, and quantifiable checkpoints for the inspection process. TCEQ will continue to engage with stakeholders throughout the development of the ASVS Program and associated guidance and inspection process. See the Certification section later in this document for more information on the certification template spreadsheet.

Review of the Recordkeeping sections of this guidance document is highly recommended. The certification template spreadsheet is primarily based on recordkeeping requirements, as these records provide historical context and evidence of compliance, aiding in identifying trends, ensuring proper maintenance and safety, and protecting the community from environmental hazards. Inspection process information specific to the ASVS Program will be made available prior to the start of the inspection program.

Recordkeeping

Maintaining well-organized and accessible records may assist owners and operators in demonstrating compliance with 30 TAC 338.9. While specific recordkeeping requirements are outlined in 30 TAC 338.9, facilities may benefit from adopting practices that support compliance, facilitate inspections, and ensure the availability of critical documentation.

Note: TCEQ does not anticipate collection of any confidential information as part of compliance with 30 TAC 338. If such information is collected, it is the responsibility of the owner/operator to clearly identify such information as confidential. The Office of the Attorney General may determine that information designated as confidential by the owner/operator is subject to disclosure for public information requests.

General Requirements

Developing and Maintaining Records

Owners and operators of ASVs must establish structured recordkeeping practices to ensure compliance with 30 TAC 338.9(a)(1), which requires the development and maintenance of all records required by this chapter. This includes:

- Implementing a system for organizing and updating records.
- Assigning responsibility for record maintenance to designated personnel.
- Ensuring that records remain accessible for regulatory review and internal use.

Maintaining accurate and up-to-date records facilitates compliance verification and supports operational decision-making.

Records at Facility Premises

To comply with 30 TAC 338.9(a)(2), owners and operators must ensure that copies of all required records are securely maintained on the facility premises unless alternative arrangements are necessary. Keeping records onsite provides benefits such as:

- Immediate accessibility for reference and operational use.
- Readiness for inspection upon request by the executive director or a designated agent.
- Support for emergency response and compliance verification.

Electronic records may be stored offsite, provided they are immediately accessible when needed.

Records at Alternate Site

In cases where maintaining records onsite is not feasible, 30 TAC 338.9(a)(3) allows for records to be stored at an alternative location, as long as they are readily accessible for regulatory review. For use of an alternative site, facilities must:

- Identify a secure offsite storage location, such as a corporate office or a digital repository.
- Ensure electronic records can be retrieved during inspections.
- Maintain clear documentation of where records are stored, as this information is required during the registration and certification process.

If records are stored offsite, facilities must provide access to electronic copies at the ASV location to facilitate inspections.

Recordkeeping Expectations from Owner/Operator

Copies of Records

Owners and operators are expected to maintain legible printed or electronic copies of critical records throughout the operational life of an ASV, as required by 30 TAC 338.9(b)(1). These records must include:

- Original and amended registration documents in accordance with 30 TAC 338.20.
- Original and amended certification documents in accordance with 30 TAC 338.21.
- Documentation supporting compliance with the applicable standards in 30 TAC 338.5, including:
    - Risk Management Program records under 40 CFR Part 68.

- Spill Prevention, Control, and Countermeasure (SPCC) Plan records under 40 CFR Part 112.
- Facility Response Plan documentation.
- Inspection and maintenance records for compliance with API and NFPA standards.

Maintaining readily accessible copies of these records will support compliance with 30 TAC 338.9 and help demonstrate adherence to regulatory requirements.

NOTE: The recommendations made for compliance supporting documents are only provided with respect to maintaining compliance with 30 TAC Chapter 338. The documents listed and recommended DO NOT ensure compliance with the referenced regulations and standards. It is the responsibility of the owner and/or operator to communicate with the appropriate agencies to guarantee compliance with referenced standards.

Documentation Supporting Compliance

The section below provides recommended documentation to support 30 TAC Chapter 338 compliance related to the referenced federal codes and regulations in 30 TAC 338.5. For 40 CFR Part 68, the document requirements are broken down by Program Level (Level 2 or Level 3). As such, owners/operators must determine their Program Level to identify required documentation expectations.

40 CFR Part 68 With Respect to 30 TAC Chapter 338 – Program Level 2

Under 40 CFR Part 68, the EPA outlines specific documentation and recordkeeping requirements for facilities with Program Level 2 processes to ensure effective implementation of risk management practices.

NOTE: Additional documentation required by ALL 40 CFR Part 68 facilities with respect to 30 TAC Chapter 338 can be found in the Program Levels 2 and 3 section.

Key documentation and recordkeeping requirements include:

Safety Information (40 CFR 68.48):

Requirement: Compile and maintain up-to-date safety information related to regulated substances, processes, and equipment.

Documentation:

- Safety Data Sheets (SDS) that meet the requirements of the OSHA Hazard Communication Standard
- Maximum intended inventory of equipment in which the regulated substances are stored or processed
- Safe upper and lower temperatures, pressures, flows, and compositions

- Equipment specifications
- Codes and standards used to design, build, and operate the process

Hazard Review (40 CFR 68.50):
Requirement: Conduct and document a hazard review to identify potential process hazards.
Documentation:

- Hazards associated with the process and regulated substances
- Opportunities for equipment malfunctions or human errors that could cause an accidental release
- Safeguards used or needed to control the hazards or prevent equipment malfunctions or human error
- Equipment specifications
- Steps required to detect or monitor releases
- Findings and resolutions, with updates at least every five years or upon significant process changes

Maintenance Records (40 CFR 68.56):
Requirement: Establish and implement maintenance procedures to ensure the mechanical integrity of process equipment.

Documentation:

- Proof of implemented procedures to maintain the on-going mechanical integrity of the process equipment
- Proof of training for employees involved in maintaining the on-going mechanical integrity of the process in the following:
    - Hazards of the process
    - How to avoid or correct unsafe conditions
    - Procedures applicable to the employee's job task

General Recordkeeping:
Requirement: Maintain any additional records supporting the implementation of the risk management program. All relevant documentation, including the aforementioned records, must be retained for at least five years to demonstrate compliance with 40 CFR Part 68 requirements.

40 CFR Part 68 With Respect to 30 TAC Chapter 338 – Program Level 3

Under 40 CFR Part 68, the EPA outlines specific documentation and recordkeeping requirements for facilities with Program Level 3 processes to ensure effective implementation of risk management practices.

NOTE: Additional documentation required by ALL 40 CFR Part 68 facilities with respect to 30 TAC Chapter 338 can be found in the Program Levels 2 and 3 section.

Key documentation and recordkeeping requirements include:

Management (40 CFR 68.15):

Requirement: Develop a management system to oversee and implement the risk management program elements.

Documentation:

- Proof of management system
- Documentation of qualified persons or positions with overall responsibility for the development, implementation, and integration of the risk management program elements
- Documentation of other persons responsible for implementing individual requirements of the risk management program and defined the lines of authority through an organization chart or similar document

Process Safety Information (40 CFR 68.65):

Requirement: Compile and maintain up-to-date safety information before conducting any process hazard analysis.

Documentation:

- SDS or equivalent documentation containing the following:
    - Toxicity information
    - Permissible exposure limits
    - Physical data
    - Reactivity data
    - Corrosivity data
    - Thermal and chemical stability data

    - Hazardous effects of inadvertent mixing of materials that could foreseeably occur

- Technology of the process containing the following:
    - A block flow diagram or simplified process flow diagram
    - Process chemistry
    - Maximum intended inventory
    - Safe upper and lower limits for such items as temperatures, pressures, flows, or compositions
    - An evaluation of the consequences of deviation
- Equipment in the process containing the following:
    - Materials of construction
    - Piping and instrumentation diagrams
    - Electrical classification
    - Relief system design and design basis
    - Ventilation system design
    - Design codes and standards employed
    - Material and energy balances for processes built after June 21, 1999
    - Safety systems
- Proof of compliance with Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)
- Proof that existing equipment, designed and constructed in accordance with codes, standards, or practices that are no longer in general use, is designed, maintained, inspected, tested, and operating in a safe manner

Process Hazard Analysis (40 CFR 68.67):

Requirement: Conduct an initial PHA and update it at least every five years.

Documentation:

- Proof of having conducted and analyzed an initial PHA performed by an appropriate team
- Proof of an acceptable technique for performing the PHA that included:

  - The hazards of the process
  - Identification of any incident that had a likely potential for catastrophic consequences
  - Engineering and administrative controls applicable to hazards and interrelationships
  - Consequences of failure of engineering and administrative controls
  - Stationary source siting
  - Human factors
  - A qualitative evaluation of a range of the possible safety and health effects of failure of controls
- Proof the owner or operator has:
  - Established a system to promptly address the team's findings and recommendations
  - Assured that the recommendations are resolved in a timely manner and documented
  - Documented what actions are to be taken
  - Completed actions as soon as possible
  - Developed a written schedule of when these actions are to be completed
  - Communicated the actions to operating, maintenance, and other employees whose work assignments are in the process and who may be affected by the recommendations
- Proof the PHA has been updated and revalidated every five years
- Proof owner or operator has retained PHAs, updates, and revalidations for covered process for the life of those processes

Mechanical Integrity (40 CFR 68.73):

Requirement: Establish and implement written procedures to maintain the integrity of process equipment.

Documentation:

- Proof owner or operator has established and implemented written procedures to maintain the on-going integrity of process equipment covered by 40 CFR 68.73

- Proof of training for employees involved in maintaining the on-going integrity of process equipment
- Proof of inspections and tests on process equipment
- Proof of compliance with RAGAGEP for inspections and testing procedures
- Proof that frequency of inspections and tests of process equipment is consistent with applicable manufacturers' recommendations, good engineering practices, and prior operating experience
- Process equipment inspections and tests contain the following:
    - Date of inspection or test
    - Name of the person who performed inspection or test
    - Serial number or other identifier of equipment on which inspection or test was performed
    - Description of inspection or test
    - Results of inspection or test
- Proof of corrected deficiencies before equipment returned to service OR assurance of safe operation prior to correction
- Proof equipment is suitable for the process application
- Proof of correct equipment installation
- Proof maintenance materials, spare parts and equipment were suitable for the process application

Management of Change (40 CFR 68.75):

Requirement: Implement written procedures to manage changes affecting covered processes.

Documentation:

- Proof of MOC procedure for covered processes that includes the following:
    - The technical basis for the proposed change
    - Impact of change on safety and health
    - Modifications to operating procedures
    - Necessary time period for the change

    - Authorization requirements for the proposed change

- Proof that employees affected by changes are informed of the change prior to the changes going into effect
- Proof of process safety information updates, if necessary
- Proof of operating procedure updates, if necessary

Pre-Startup Safety Review (40 CFR 68.77):

Requirement: Perform safety reviews for new or significantly modified processes.

Documentation:

- Proof of pre-startup safety review for new processes or when change affects process safety information that provides the following:
    - Construction and equipment in accordance with design specifications
    - Safety, operating, maintenance, and emergency procedures in place and are adequate
    - For new stationary sources, process hazard analysis has been performed, and recommendations have been resolved or implemented before startup
    - Modified stationary sources meet the requirements contained in management of change
    - Training of each employee involved in operating a process had been completed

General Recordkeeping:
Requirement: Maintain records supporting the implementation of the risk management program. All relevant documentation, including the aforementioned records, must be retained for at least five years to demonstrate compliance with 40 CFR Part 68 requirements.

40 CFR Part 68 With Respect to 30 TAC Chapter 338 – Program Levels 2 and 3

Under 40 CFR Part 68, the EPA outlines specific documentation and recordkeeping requirements for facilities with Program Level 2 or Program Level 3 processes to ensure effective implementation of risk management practices.

Subpart E – Emergency Response (40 CFR 68.90 through 68.96)

Requirement: Facilities with Program 2 or Program 3 processes are required to develop and implement an emergency response program. As part of this program, owners or

operators must conduct regular emergency response exercises, including notification exercises.

Documentation:

- Proof of an acceptable emergency response plan
- Proof of annual coordination (or more frequently, if necessary) with local emergency organizations that includes the following:
    - Stationary source's emergency response plan, if one exists
    - Emergency action plan
    - Emergency contact information
    - Other necessary information
    - Schedules for field and tabletop exercises, if necessary
    - Contact information for responsible individuals
    - Dates of coordination activities
    - Nature of coordination activities
- Proof of exercises conducted annually
- Written records of notification exercises for at least the last 5 years

Subpart G – Risk Management Plan (40 CFR 68.150 through 68.195)

Requirement: This subpart mandates the development and submission of an RMP that includes various elements such as an executive summary, registration details, offsite consequence analysis, five-year accident history, prevention program information, and an emergency response program.

Documentation:

- Single registration forms for each covered process that include:
    - The name and CAS number of each regulated substance held above the threshold quantity
    - The maximum quantity of each regulated substance or mixture in the process (in pounds) to two significant digits
    - The five- or six-digit NAICS code that most closely corresponds to the process
    - The correct program level of the process

- Whether a public meeting was held following an RMP accident

- Proof that the RMP contains:
  - Name, phone number and email address of local emergency planning and response organizations with which the stationary source last coordinated emergency response efforts
  - Date of the most recent coordination with the local emergency response organizations
  - List of federal or state emergency plan requirements to which the stationary source is subject
  - For responding stationary sources:
    - Date of most recent review and update of the emergency response plan
    - Date of most recent notification exercise
    - Date of most recent field exercise
    - Date of most recent tabletop exercise
  - For non-responding stationary sources:
    - Identification of any regulated toxic substance held in a process above the threshold quantity and whether the stationary source is included in the community emergency response plan.
    - Identification of flammable substances held in a process above the threshold quantity, including the date of the most recent coordination with the local fire department
    - Identify mechanisms in place to notify the public and emergency responders when there is a need for emergency response
    - Date of the most recent notification exercise

Subpart H – Other Requirements (40 CFR Part 68.200 to 68.220)

Subpart H outlines general recordkeeping, public information access, permit integration, and audit procedures associated with the Risk Management Program. Facilities must retain all relevant documents for five years and ensure transparency and accountability for public safety and environmental compliance.
Documentation:

- Records supporting implementation of the RMP
    - Must provide public access to the RMP
        - Hold a public meeting within 90 days of any RMP-reportable accident with a known offsite impact
- Chemical hazard information containing the following:
    - Names of regulated substances in each process
    - SDSs for regulated substances
    - Five-year accident history
    - Summary of emergency response status, coordination contacts, and public notification procedures
    - Schedule of emergency exercises
    - LEPC contact details (name, phone, web address)
    - Any declined safety recommendations with justifications
- Record of all public information requests for five years
- Records of all audit-related documents

40 CFR Part 112 With Respect to 30 TAC Chapter 338

Spill Prevention, Control, and Countermeasure (SPCC) Plan Records

Facilities subject to 40 CFR Part 112 with respect to 30 TAC Chapter 338 are required to maintain a SPCC Plan and supporting documentation. Records must provide the following information:

- Facility information:
    - Name, address, and owner/operator contact
    - Detailed description of its operations, including the types of oil handled
    - Date of initial SPCC Plan preparation and any amendments
- Professional engineer (PE) certification or self-certification:
    - If applicable, a PE's certification that the plan meets 40 CFR Part 112 standards.
    - Tier I or Tier II self-certification for qualified facilities.

- Tier I and Tier II qualified facilities:
    - Tier I facilities: Self-certified SPCC Plan using Appendix G template.
    - Tier II facilities: PE-certified SPCC Plan, including secondary containment and inspection procedures.
- Plan availability:
    - The plan must be available on-site if the facility is attended at least four hours per day.
    - If unattended, the plan must be available at the nearest field office.
- Management approval and plan implementation:
    - Written approval by facility management
    - Implementation procedures for spill response and containment
- Facility diagram showing:
    - Oil storage containers
    - Transfer stations
    - Connecting pipes
    - Drainage flow
- Oil storage details
    - Documenting all oil storage containers that meet the applicability requirements, specifying their location, contents, and capacity
    - Describe secondary containment or diversionary structures (e.g., dikes, berms) designed to prevent oil discharges
- Spill prevention measures:
    - Detail procedures for routine handling of oil, including loading, unloading, and facility transfers, to prevent spills
    - Explain drainage design and operation to control and direct any potential spills
- Spill control measures:
    - Outline immediate actions to be taken when a discharge is discovered, including containment and cleanup procedures

  - Contact information for facility response coordinators, National Response Center, and other relevant agencies.

- Facility inspections and records:
  - Describe regular inspection schedules and testing protocols for oil-containing equipment.
  - Maintain records of inspections and tests, signed by the appropriate supervisor or inspector, for a minimum of three years.
- Personnel training and discharge prevention procedures:
  - Document that oil-handling personnel are trained in operation and maintenance of equipment, discharge procedure protocols, applicable pollution control laws, and the contents of the SPCC Plan.
  - Assign a person at each facility to be accountable for discharge prevention and who reports to facility management.
- Security measures:
  - Describe security measures to prevent unauthorized access to oil handling, processing, and storage areas.
- Emergency response:
  - If secondary containment is not practicable, provide an oil spill contingency plan following the provisions of 40 CFR Part 109.
  - Include a written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.
- Plan certification and amendments:
  - The SPCC Plan must be reviewed and certified by a licensed PE, unless the facility qualifies for self-certification under specific criteria.
  - Conduct a review and evaluation of the SPCC Plan at least once every five years and amend the Plan to include more effective prevention and control technology if applicable.

Facility Response Plan Records

Facilities subject to the Facility Response Plan (FRP) requirements must prepare and maintain a response plan that addresses the prevention and control of oil discharges, using the structure and content defined in Section 112.20(h) and Appendix F. Records must be current, complete, and available for inspection by regulatory authorities. Documentation:

- A complete facility response plan following the format in Appendix F or an approved equivalent
- An emergency response action plan including:
    - Contact information for a qualified individual with full response authority
    - Communication procedures, discharge reporting details, and evacuation plans
    - Descriptions of response personnel duties, equipment, and facility diagrams
- Facility identification and ownership history
- Contracts or agreements ensuring availability of response personnel and equipment
- Scenarios and planning levels for worst-case and other potential discharges
- Documentation of hazard evaluation, including site discharge history and environmental risk areas
- Procedures for discharge detection and response implementation, including cleanup and containment measures
- Records of inspections of tanks, secondary containment, and response equipment
- Drill/exercise logs and training records per Section 112.21, including attendance and agendas
- Diagrams of site layout and drainage features
- Description of security systems
- A completed cover sheet (Appendix F, section 2.0) summarizing the plan contents
- Cross-reference section (if the plan does not follow Appendix F format) identifying where each required element is addressed

API Standard 653 With Respect to 30 TAC Chapter 338

While the sections of API Standard 653 referenced directly in 30 TAC Chapter 338 do not specifically provide for recordkeeping, other sections of API Standard 653 indicate the required following recordkeeping needed to support compliance:

Records (API Standard 653 Section 6.8)

- Construction Records
    - Nameplate information
    - Drawings and specifications
    - Construction completion report
    - Results of material tests and analyses
- Inspection History
    - All inspection measurements taken
    - Condition of all inspected parts
    - Examination and test records

  - Descriptions of unusual conditions and corrective actions
  - Corrosion rate calculations and inspection interval determinations
- Repair and Alteration History
  - Data on repairs, alterations, replacements, and service changes
  - Records of service conditions, including stored product temperature and pressure
  - Documentation of coatings and linings used

Report Retention and Contents (API Standard 653 Section 9)

- All inspection reports must be maintained for the lifetime of the tank and include:
  - Each date of inspection
  - Type of inspection (internal or external)
  - Scope of inspection and any limitations
  - Description of the tank, including:
    - Number, size, capacity, construction year
    - Materials of construction
    - Service history
    - Roof and bottom design
  - List of inspected components and observed conditions
  - Inspection methods used (e.g., visual, ultrasonic, magnetic flux leakage)
  - Corrosion rates of the bottom and shell
  - Settlement survey measurements and analysis (if performed)
  - Recommendations for repairs and monitoring to maintain tank integrity
  - Inspector's name, company, API 653 certification number, and signature
  - Supporting documents (drawings, photographs, nondestructive examination reports, etc.)

Retention Period for Records (API Standard 653 Sections 6.8.4 & 13.2)

- Inspection and repair records must be retained for the life of the tank
- Radiographs (X-ray records) must be kept for at least one year
- Other documents such as integrity evaluations, brittle fracture considerations, and material test reports must be included in the owner/operator's permanent records

Nameplate and Certification Records (API Standard 653 Sections 13.1 & 13.3)

- Nameplate Information
    - If the original nameplate is lost or damaged, a replacement nameplate must be created with:
        - Tank number
        - Assessment details
        - Maximum capacity and liquid level
        - Specific gravity, pressure, and temperature details
- Certification of Reconstruction
    - If a tank is reconstructed, certification must include:
        - Statement confirming compliance with API 653
        - Owner and inspector signatures
        - Location and description of the tank

API Standard 2350 With Respect to 30 TAC Chapter 338

While 30 TAC Chapter 338 does not directly provide for recordkeeping requirements related to overfill prevention, API Standard 2350 outlines critical recordkeeping obligations for maintaining an OPS.

Records (API Standard 2350 Sections 4.2, 4.3, 4.5.1, 4.5.3)

- Management System Documentation
    - Formal documented operating procedures, including safety and emergency response procedures
    - Records of operating and maintenance personnel competency

  - Inspection, testing, and maintenance records for OPS instrumentation and equipment
  - Records of management system reviews and updates
- Risk Assessment Records
  - Documentation of risk assessment methodology
  - Records of risk mitigation measures implemented
  - Team member expertise and responsibilities
  - Probability and consequence evaluation
  - Updates to risk assessments at least every 10 years
- OPS Procedures Documentation
  - Planning records for each product receipt
  - Procedures for pre-receipt, receipt, and post-receipt activities
  - Records of communication between facility owner/operator and transporter
  - Procedures for responding to overfill emergencies and abnormal conditions
  - Records of training for personnel involved in overfill prevention

Report Retention and Contents (API Standard 2350 Sections 4.5.1, 4.5.3)

- All receipt documentation must be maintained, including:
  - Tanks involved in the receipt
  - Actual receipt volume
  - Final tank levels
  - All records must be retained for a minimum of three years, or longer if required by the owner/operator or regulatory authorities

Retention Period for Records (API Standard 2350 Section 4.5.3.2)

- OPS Testing and Inspection Records
- Initial testing records at installation

- Annual proof testing records, unless justified by failure probability calculations
- Documentation of alarm testing procedures and results
- Records of manual or AOPS failures and corrective actions
- Any regulatory-mandated records (e.g., PHMSA/DOT compliance)

Training and Certification Records (API Standard 2350 Section 4.5.2)

- Personnel training records must include:
    - Employee identity
    - Date of training
    - Method used to verify competence

Tank Level Documentation (API Standard 2350 Sections 4.4, 4.5.3.5)

- Level of concern (LOC) records
- Documented LOCs, including Critical High (CH) level, High-High (HH) level, and Maximum Working (MW) level
- Calculations of response times for each level
- Records of periodic LOC reviews, especially after physical or operational changes
- Proof testing and inspection reports
- Regular calibration and verification of tank level measurement systems
- Documentation of failures, corrective actions, and retesting results

Nameplate and Certification Records (API Standard 2350 Section 4.5.3.3)

- AOPS and MOPS Certification
- Proof of compliance with API 2350
- Documentation of system modifications or upgrades
- Validation of compliance with regulatory authorities (if applicable)

Automated Overfill Prevention Systems (AOPS) Documentation (API Standard 2350 Annex A)

- Piping and Instrumentation Diagrams (P&IDs) clearly showing the current state of all AOPS equipment.
- Functional descriptions (logic narratives or loop diagrams) explaining AOPS operation and testing frequency.
- Proof test procedures, including details on testing methodology and recordkeeping requirements.
- Preventive maintenance plan, outlining scheduled inspections and maintenance activities.
- Override and bypass management procedures, specifying review and approval requirements.
- AOPS maintenance records, including proof testing results, maintenance history, change logs, and failure records.
- Installation, Testing, and Maintenance Records for AOPS.
- Installation records verifying compliance with design specifications.
    - Proof test reports from initial installation and before startup
    - Annual proof test records, including testing of sensors, logic solvers, and shutdown valves
    - AOPS maintenance logs, detailing repairs, modifications, and system upgrades

NFPA 30 Chapter 22 With Respect to 30 TAC Chapter 338

NFPA 30 Chapter 22 provides documentation requirements related to ASTs for flammable and combustible liquids. Specifically, Sections 22.4 and 22.8 focus on tank location and fire protection, outlining key recordkeeping obligations.

Location of ASTs (NFPA 30 Section 22.4)

- Tank Location Records
    - Documentation verifying compliance with minimum distance requirements from property lines, public ways, and important buildings. (22.4.1)
    - Documentation verifying compliance with shell-to-shell spacing of adjacent ASTs. (22.4.2)

- Justification for siting decisions based on tank diameter and storage capacity.

Fire Protection for Aboveground Storage Tanks (NFPA 30 Section 22.8)

- Proof of compliant fire suppression systems for tanks storing Class I liquids over 50,000 gallons.

API RP 2001 With Respect to 30 TAC Chapter 338

API RP 2001 outlines documentation and recordkeeping requirements related to fire protection in refineries. Below are the requirements referenced within the document.

Hazard Assessment Records (API RP 2001 Section 5.2)

- Documentation of a PHA meeting RAGAGEP.
- Documentation of a fire hazard analysis containing the following:
  - Hazardous material inventory
  - Scenario analysis with size, magnitude, and impact determination
  - Fire protection solutions
  - Firefighting asset analysis

Design Considerations (API RP 2001 Sections 5.3 through 5.10)

Documentation indicating that during design, the following information was considered:

- Materials used in the process
- Equipment used in the process
- Location (including climate, geography, and resource availability)
- Layout and spacing
- Fireproofing
- Pressure relief and flaring
- Drainage, containment, and waste
- Utilities

Fire Mitigation (API RP 2001 Section 6)

- Records of fire protection equipment inspection and testing
- Design specifications that include:
    - Diagrams of piping and valving
    - Justification for sizing
    - MOC approval for all changes
    - Portable extinguisher locations

Operating Practices (API RP 2001 Section 7)

- Standard operating procedures for fire prevention and control including:
    - Furnace operation
    - Locomotive operation
    - Electrical grounding, isolation, discharge, and safe design
    - Housekeeping
    - Material storage and transfer
    - Work permits
    - Pressure purge
    - Air exclusion and inert gas
    - Leak repair
- Emergency operating procedures for fire prevention and control including:
    - Start-up
    - Shutdown
    - Relief and flaring
    - Utility outage
- Response procedures during loss of containment

Maintenance Procedures (API RP 2001 Section 8)

- Documentation of proper maintenance procedures including:

- MOC
- Permitting
- Written procedures
- Safe work authorization
- Grounding and isolation
- Bypass procedures
- Inspection and repair of vessels and piping
- Material controls
- Use of tools
- Winterizing

Emergency Response (API RP 2001 Section 9 through 11)

- Documentation of an integrated command system or incident management system
- Defined duties of the fire protection staff, including the incident commander
- Notification procedures
- Firefighter selection and training procedures
- Training records
- Safety procedures during emergencies
    - Identification of necessary PPE
    - Prefire planning

Record Retention

- Fire hazard analysis and risk assessments: minimum five years
- Fire system maintenance logs: minimum three years
- Fire incident reports and corrective actions: retained for the lifetime of the facility
- Firefighter training and certification records: retained for duration of employment

API Standard 650 With Respect to 30 TAC Chapter 338

API Standard 650 outlines specific documentation requirements for welded tanks for oil storage. The following is a detailed documentation list by section.

General Requirements (API Standard 650 Section 1)

- Responsibilities
    - The manufacturer is responsible for complying with all provisions of API 650, including documentation requirements.
    - The purchaser must specify jurisdictional regulations that affect tank design and construction on Line 23 of the API Standard 650 Storage Tank Data Sheet.
- Any agreements between the purchaser and manufacturer must be documented in writing.
- Documentation requirements for tank design, fabrication, and inspection are covered in Annex W and the data sheet.

Materials (API Standard 650 Section 4)

- Materials used in tank construction must comply with specified standards and be documented accordingly.
- The purchaser and manufacturer must ensure that materials meet the required specifications before fabrication.
- Material test reports (MTRs) must be maintained for all steel plates used in the tank shell, bottom, and roof.
- Heat numbers and mill certifications must be documented to ensure material traceability.
- Documentation of pipe and forging materials is required, ensuring compliance with API, ASTM, and ASME specifications.
- Any special material properties (e.g., impact toughness) must be recorded and verified by the manufacturer.
- Flange and fitting specifications must be documented in accordance with API 650 requirements. If nonstandard flanges or fittings are used, engineering justification and approvals must be recorded
- The type, size, and material composition of all gaskets must be documented.
- Manufacturer certificates of compliance for gasket materials must be included in the tank records.

Design (API Standard 650 Section 5)

- Shell Attachments and Tank Appurtenances
    - Welding records must document compliance with weld quality and procedure qualifications.
    - Inspection records must verify that structural attachments meet API 650 specifications.
- Shell Openings
    - Documentation is required for:
        - Nozzle and manhole materials
        - Reinforcement plate details
        - Weld procedures for shell openings
- Wind Girders and Structural Stability – Design calculations and structural analysis reports must be documented for wind girders and stiffeners.
- Roofs
    - Documentation required for:
        - Roof material and thickness
        - Frangible joint compliance reports (if applicable)
        - Weld details and inspection results
- Tank Anchorage
    - Anchorage system design and calculations must be documented and retained.
    - Inspection and testing reports for hold-down straps and anchor bolts must be maintained.

Fabrication (API Standard 650 Section 6)

- General Requirements:
    - Fabrication records must be maintained to ensure compliance with API 650 material and welding requirements.
    - All materials and workmanship must conform to the specifications defined by the purchaser.

Erection (API Standard 650 Section 7)

- Inspection records must document compliance with welding and dimensional tolerances.
- Leak test documentation is required for:
    - Shell joints
    - Bottom plate welds
    - Roof seams
    - Inspection reports must include acceptance or rejection criteria based on API 650 standards.
- Weld repair documentation must include:
    - Defect identification and repair procedures.
    - Reinspection and testing reports.
    - Final approval by the inspector before acceptance.
- Dimensional measurement records must verify compliance with dimensional tolerances for:
    - Shell roundness
    - Vertical alignment
    - Bottom plate flatness

Examining Joints (API Standard 650 Section 8)

- Radiographic examination records must be maintained for:
    - Shell butt welds
    - Annular plate butt welds
    - Flush-type connections with butt welds
    - Exemptions: Radiographic examination is not required for roof-plate welds, bottom-plate welds, or appurtenance welds.
- If ultrasonic examination is used instead of radiography, the manufacturer must document testing procedures and acceptance criteria.
    - Inspector qualifications and procedure documentation must be included in tank records.

- Visual inspection records must confirm that:
    - Welds are free of cracks, incomplete fusion, and excessive porosity.
    - Fillet welds meet dimensional and quality requirements.
- Leak testing documentation must include:
    - Vacuum box testing procedures and results.
    - Acceptance criteria for bottom plate and shell-to-bottom welds.
    - Tracer gas or hydrostatic testing records (if applicable).

Welding Procedure and Welder Qualifications (API Standard 650 Section 9)

- The manufacturer must maintain welder qualification records, including:
    - Welder's name and unique identifier (number, letter, or symbol).
    - Date and results of the welder qualification test.
    - Weld types and positions for which the welder is qualified.
- These records must be certified by the manufacturer and accessible to the inspector.
- Welders must stamp their identification mark (by hand or machine) at intervals of no more than 3 feet along:
    - Liquid-containing welds.
    - Opening welds and their reinforcements.
- Alternatively, the manufacturer may keep a written record that identifies the welder for each welded joint.
- These records must be maintained until accepted by the inspector or owner/operator and submitted as part of the post-construction document package. The post-construction document package must be maintained by the owner/operator for the life of the vessel

Marking (API Standard 650 Section 10)

- Every tank built per API 650 must have a nameplate affixed to it.
- The nameplate must include the following required information:
    - API Standard 650 reference

  - Applicable annex
  - Year of tank completion
  - Edition and addendum number of API 650
  - Nominal diameter and height of the tank
  - Maximum capacity in cubic meters (m^3) or barrels
  - Design liquid level in meters (m) or feet (ft)
  - Design specific gravity of the stored liquid
  - Design pressure (shown as “atmospheric” unless specific annexes apply)
  - Manufacturer’s name and serial number
- If a tank is fabricated and erected by the same organization, that organization’s name must appear on the nameplate.
- If a different organization performs the erection, both the fabricator’s and erector’s names must appear.
- The erection manufacturer is responsible for ensuring that all materials and construction meet API 650 requirements.
- The manufacturer must provide a certification letter verifying that the tank has been built per API 650 standards.
- The as-built data sheet (Annex L) must be attached to the certification letter. The data sheet must be maintained by the owner/operator for the life of the vessel.

Additional Information

API Standard 650 Section is highly prescriptive. It is the responsibility of the owner/operator to comply with all aspects of the regulation and all pertinent annexes, in particular the API Standard 650 Storage Tank Data Sheet (Annex L) and the Post-Construction Document Package (Annex W).

Registration

Effective Sept. 1, 2027, all ASV owners or operators must register with TCEQ using the State of Texas Environmental Electronic Reporting System (STEERS).[20] For assistance in setting up a STEERS account, see TCEQ Regulatory Guidance, RG-531a, A Guide to Creating an Account in STEERS E-Permitting.[21] Registration via STEERS will be available prior to Sept. 1, 2027, to allow facilities time to register all existing ASVs.

The owner or operator must submit a registration via STEERS for each facility. Each facility and registration requires one owner and one operator. If the owner does not have a contract with a third-party operator, the owner should indicate themselves as the operator. TCEQ will assign a customer number to the company that is the owner or operator if they do not already have one. The owner and operator can be the same company, or one company can be the owner, and one company can be the operator.

The owner or operator must list all ASVs located within a facility on the same registration. An individual site or location tied to a regulated entity may require multiple facility registrations if each facility registration has different owners and operators. The owner or operator must provide all registration information requested by TCEQ for each ASV. If TCEQ determines that the registration information submitted is inaccurate, incomplete, or otherwise inadequate, the owner or operator must submit any additional information requested by TCEQ within 30 days.

An owner or operator may designate an authorized representative to complete the required registration information via STEERS. However, the owner and operator are responsible for compliance with 30 TAC Chapter 338.

Registration Deadline

The registration deadline depends on the date the ASV was placed into service.

Existing ASVs (On or Before Sept. 1, 2027)

Existing ASVs (placed into service on or before Sept. 1, 2027) must register by Sept. 1, 2027. At the time of registration, the owner or operator must indicate which safety standards apply to the ASV and whether the ASV meets the requirements of each applicable safety standard. At the time of registration, owner/operators do not have to comply with applicable performance standards or submit the certification affirming that compliance. Instead, compliance and certification for existing ASVs is not required until the next out-of-service maintenance event or Sept. 1, 2037, whichever comes first. See the certification section a few pages below for additional information.

New or Replacement ASVs (After Sept. 1, 2027)

New ASVs (placed into service after Sept. 1, 2027) must register within 30 days of the start of operation. If the new ASV is part of a facility that already has an ASV

20. www3.tceq.texas.gov/steers/
21. www.tceq.texas.gov/downloads/assistance/publications/rg-531a.pdf

registration, the owner or operator must update the registration to add the new ASV in STEERS within 30 days of the start of operation of the new ASV. This also applies to ASVs that replace an existing ASV.

Required Information

To register a facility's ASVs, you will need to have the following information available:

Facility

- Facility name.
- Regulated entity number (RN) issued by TCEQ if the facility has already been issued one.
- Facility type determination (petroleum refinery, petrochemical plant, or bulk storage terminal as defined in 30 TAC 338.2[22]).
- The facility's physical address validated with USPS or a location description including latitude and longitude.
- The county of the facility's location. If the facility spans multiple counties, indicate the county that has the majority of the property when registering.
- The location of the records if the records are kept off-site.
- Primary North American Industry Classification System[23] code.

Owner and Operator Information

- Company names for the owner and operator as registered with the Texas Secretary of State.
- Customer number (CN) issued by TCEQ if the company has already been issued one.
- Texas Secretary of State filing number or Texas tax identification number.
- Mailing address, phone number and email address for the owner and operator.
- For sites with multiple operators, the owner has two options:
    - Register separate facilities for each operator; or
    - List the owner as the operator so that all vessels are on a single registration.

Contacts

Registration for the ASVS Program is exclusively through STEERS, therefore, all contacts must provide an email address.

22. texas-sos.appianportalsgov.com/rules-and-meetings?chapter=338&interface=VIEW_TAC&part=1&subchapter=A&title=30
23. www.census.gov/naics/

- Primary facility contact's first name, last name, title, mailing address, phone number, and email address.
- Safety manager's first name, last name, title, mailing address, phone number, and email address.
- Billing contact's mailing address, phone number, and email address. The billing address must be in the United States.

ASVs

You can download a spreadsheet that TCEQ has developed to use to track and upload ASV data into STEERS. The Vessel Import Spreadsheet Template is available on the TCEQ webpage: Registering for the Aboveground Storage Vessel Safety Program: Required Information[24]. Facilities should register interconnected or manifolded vessels individually. Additionally, STEERS will allow you to copy an ASV's data to help you register additional ASVs more easily and quickly.

For each ASV, you will need to provide:

- Unique identifier, referred to as a vessel identification number.
    - The vessel identification number can have a maximum of 10 alphanumeric characters.
    - The vessel identification number can match the identifier on the ASV or the identifier used by the facility if the identifier consists of at least 1 and no more than 10 alphanumeric characters.
- Construction date.
    - If you do not have the exact date for older ASVs, provide the best date estimate you can.
    - If the tank nameplate only includes the year, register the tank with Jan. 1 as the month and date of the year.
- Operation start date.
    - The operation start date determines whether an ASV will be considered an existing ASV or a new ASV for certification under 30 TAC Chapter 338.
- Construction material: Concrete, steel, fiberglass, plastic, or other non-earthen material.
- Nominal design capacity in gallons or barrels.
- The applicable safety standards.
- Safety standards the ASV currently complies with.
- For existing ASVs that do not yet comply with all the applicable safety standards, a planned certification date.
    - The planned certification date must be prior to Sept. 1, 2037.
    - Existing ASVs that comply with all the applicable standards will not need to enter a planned certification date.

[24] www.tceq.texas.gov/permitting/asvs/reg-required-info

- The owner or operator may update the planned certification date in STEERS if it is later determined that the originally entered date is not feasible, as long as the revised date is prior to Sept. 1, 2037.
- New ASVs must certify compliance with the applicable safety standards within 30 days of the start of operation, so new ASVs do not need to provide a planned certification date.

Payment

Once you have entered and submitted all your facility's registration data, you will need to pay the initial registration fee unless you registered prior to Sept. 1, 2027, in which case your facility will be invoiced after Nov. 1, 2027. STEERS will direct you to the executive director's payment portal (ePay). You can pay the initial registration fees through ePay at that time or you can mail a check or money order to TCEQ. If you choose to mail a check or money order, your registration will have a pending status until your payment has been received.

Registration Updates

Updating the Registration

The owner or operator of an ASV must update the registration information in STEERS within 30 days when changes occur. Changes that require updating in STEERS include, but are not limited to:

- Ownership,
- Compliance status,
- Location of records,
- Applicability, or
- Decommissioning an ASV.

Adding a new ASV to the facility would also require the owner or operator to update the registration within 30 days of the start of operation to meet the registration deadline for a new ASV.

Removal or Decommissioning of an ASV

To remove an ASV from the registration, fee, and certification requirements, the owner or operator must provide notice and certify that the ASV is either decommissioned and is no longer subject to the definition of aboveground storage vessel (30 TAC 338.2) or removed from the facility. An ASV registered with TCEQ is considered an ASV as long as the ASV has the potential to contain a regulated substance. An ASV that is decommissioned or permanently removed from service will no longer be billed annual fees or require certification with TCEQ under this program.

The owner or operator must update the ASV status and upload documentation in STEERS including, but not limited to, photographs, engineering reports, and proof of

disposal of waste. The owner or operator must pay all outstanding fees owed to the agency before TCEQ can remove the ASV from the program.

Any decommissioned ASV brought back into the ASVS program will be considered a new ASV and the owner or operator will be required to certify the ASV as a new ASV, pay new fees, and follow the standards for a new ASV placed into service.

To cancel a registration, all ASVs listed on a registration must either be decommissioned, removed, or transferred to another registration.

Merging Multiple ASVS Registrations

To merge two ASVS registrations into a single registration, contact the Registration and Reporting Section for guidance at asvs@tceq.texas.gov or (512) 239-2160.

Certification

ASV owners or operators must certify that each ASV meets each applicable safety standard. Owners or operators will do so by indicating in STEERS which safety standards apply to the ASV and then certifying that the ASV meets **all** those standards. Owners or operators will need to do this for each ASV associated with the facility.

TCEQ provides a downloadable certification template spreadsheet on the TCEQ Aboveground Storage Vessels Safety (ASVS) Program webpage. This spreadsheet template was developed to help owner/operators of ASVs to verify and acknowledge the supporting documentation they have available for certified ASVs.

Owners/operators must complete the spreadsheet for all ASVs that are being certified and attach the document in STEERS. Owners/operators will not be required to submit detailed compliance documentation at the time of certification.

Certification Deadlines

Existing ASVs (Brought in Service on or Before Sept. 1, 2027)

Existing ASVs must certify compliance with the safety standards during the next regularly scheduled out-of-service maintenance event for that ASV or by Sept. 1, 2037, whichever comes first.

At the time of registration, the owner or operator of existing ASVs (those brought into service on or before Sept. 1, 2027) will need to indicate which safety standards apply and indicate whether they comply with the applicable safety standards. The ASV does not need to comply with the safety standards at the time of registration, but the owner or operator will need to update the registration in STEERS to certify that the ASV complies by the Sept. 1, 2037, deadline.

The facility will need to indicate the date that they plan to certify compliance with the applicable safety standards on their registration. If the facility is not yet sure when

they will comply with the applicable safety standards, they can indicate Aug. 31, 2037, on their registration.

New or Replacement ASVs (Brought in Service After Sept. 1, 2027)

Owner or operators of new ASVs must certify compliance within 30 days of the start of operation of any ASV put into operation after Sept. 1, 2027.

Recertification

All ASVs must recertify their compliance with the safety standards every 10 years. TCEQ calculates this date from the latest certification date of the ASV. An owner or operator can recertify within less than 10 years to get all ASVs in a facility on the same schedule.

For example, a facility has five ASVs certified on the following dates:

- Oct. 15, 2027, for three ASVs with vessel identification numbers 1A, 2B, and 3C;
- Dec. 15, 2028, for an ASV with vessel identification number 4D; and
- May 11, 2029, for an ASV with vessel identification number 5E.

The facility could opt to recertify ASVs 4D and 5E at the same time as ASVs 1A, 2B, and 3C, no later than Oct. 15, 2037, to allow all five ASVs to have the same recertification date in the future. All five ASVs would require recertification no later than Oct. 15, 2047. A facility may opt to recertify early to get their ASVs on the same recertification schedule but cannot recertify ASVs after an ASV's recertification deadline to get their ASVs on the same recertification schedule.

If an owner or operator does not recertify an ASV by the 10-year deadline, the ASV will be out of compliance until it is recertified. The expiration date of an ASV that gets recertified past the 10-year deadline will not change. For example, if an owner or operator fails to recertify an ASV by Dec. 15, 2038, and recertifies instead on Nov. 11, 2039, that ASV's next recertification date will remain Dec. 15, 2048.

Fees

According to Senate Bill (SB) 900, 87th Texas Legislature, TCEQ must establish fees sufficient to cover the costs of implementing the registration program, reviewing initial and ten-year certifications, amending certifications, inspecting certified facilities, and enforcing compliance with the statutes, rules, and orders.

When you submit your initial registration or add ASVs into STEERS, STEERS will display an estimate of your fees before you proceed to payment. Verify that the capacities and corresponding fees are correct before submitting your registration data and making a payment.

TCEQ will assess initial and annual registration fees for all certified and registered ASVs on active, pending, and expired registration statuses. Cancelled, merged, or

withdrawn registrations will not receive invoices for annual registration fees and decommissioned, removed, or transferred ASVs will not be included on the facility's invoice. Facilities will receive an additional invoice for any period of time when an ASV should have been registered and failed to register.

The estimated number of ASVs and associated size distribution TCEQ used for the preliminary fee calculations have an unknown degree of uncertainty. Due to this uncertainty, it is likely that the fees will need adjustment in the future. The fees are subject to change based on variations in the number of regulated entities, the capacity of the ASVs, and the cost of administering the program. TCEQ will publish changes to the fees through the Texas Register notification process.

Fee Schedule

The fee schedule effective Sept. 1, 2027, consists of a flat fee of $200 per ASV and an additional $0.0024 per barrel of capacity, based on design capacity, for ASVs over 20,000 barrels. The design capacity is the maximum working fill capacity or overfill level height of the ASV (30 TAC 338.2). TCEQ will calculate the initial registration fee and the annual fee in the same way.

The maximum fee is $2,000 per ASV. Larger capacity ASVs are more complex, will require additional time and resources to inspect and review, and present a greater risk to public health and the environment. Therefore, larger ASVs will be assessed a larger fee.

Table 1 shows the total fee for various ASV capacities based on the fee schedule effective Sept. 1, 2027.

Table 2: Example Fees for ASVs of Different Capacities

Capacity in barrels (bbls)	**500**	**20,000**	**20,001**	**100,000**	**200,000**	**750,000**	**800,000**
Per ASV Flat Fee	$200	$200	$200	$200	$200	$200	$200
Per Barrel Fee ($0.0024/bbl)	-	-	$48	$240	$480	$1,800	$1,920
Total per ASV Fee	**$200**	**$200**	**$248**	**$440**	**$680**	**$2,000**	**$2,000**

The table above shows that an ASV with a capacity of 20,000 would only pay the flat fee of $200 and that an ASV with a capacity of 20,001 barrels would pay an additional $48 based on capacity. It also shows that ASVs with a capacity of 750,000 barrels or more would pay the maximum fee of $2,000.

Initial Fees

- ASVs registered before Sept. 1, 2027: TCEQ will send an invoice to the owner or operator.

    - Facilities that register prior to Sept. 1, 2027, registration deadline do not have to pay their initial registration fees until they receive an invoice from TCEQ in late 2027.
- ASVs that register on or after Sept. 1, 2027: Initial fees are due at the time of registration. TCEQ recommends submitting your payment though ePay.
    - If you choose to mail a check or money order to pay your initial registration fees, your registration will have a pending status until your payment has been received.

Annual Fees

TCEQ bases the annual fee on the ASVs that have a registered or certified status as of Sept. 1 of each year regardless of when the facility or ASV originally registered. For example:

- A facility registered their existing ASVs on Dec. 1, 2026. The facility will receive an invoice in late 2027 (fiscal year 2028) for the initial registration fee. The next annual billing in late 2028 (fiscal year 2029) will be determined by the number and capacity of registered or certified ASVs as of Sept. 1, 2028.
- A facility that decommissions an ASV in October 2029 will still receive an invoice for 2029 (fiscal year 2030) since the ASV status was still registered as of Sept. 1, 2029.
- A facility registers a new ASV on Aug. 15, 2030, and pays the initial registration fee. The facility will receive an invoice for that new ASV for the 2030 annual fees (fiscal year 2031) since the new ASV was on the registration as of Sept. 1, 2030.

Payment Types

The owner or operator must pay the initial and annual fees by check, money order, electronic funds transfer, or through the executive director's payment portal (ePay). TCEQ may assess penalties and interest for late payments.

Refunds

Removing, decommissioning, or transferring an ASV from a registration does not constitute grounds for a refund, in whole or in part, of initial or annual registration fees. Changes in ASV status become effective as of the date of the notification to TCEQ regardless of when an owner or operator started the process of decommissioning, removing, or transferring an ASV. For ASV transfers, the owner or operator must ensure payment of any outstanding fees and penalties associated with the vessel prior to transferring the vessel.

Appendices

Appendix A – Points of Contact

Appendix B – API Standards Resources

Appendix C – NFPA Resources

Appendix D – Helpful Links

Appendix A – Points of Contact

POINTS OF CONTACT

STEERS Questions:
STEERS
512-239-6925
steers@tceq.texas.gov

Central Registry (CR) Questions:
Central Registry Program
512-239-5175
registry@tceq.texas.gov

ASVS Registration Questions:
Registration and Reporting Section
512-239-2160
asvs@tceq.texas.gov

ASVS General Questions:
asvs@tceq.texas.gov

ASVS General Compliance Questions:
ASVSCompliance@tceq.texas.gov

Appendix B – API Standards Resources

API Standards Resources

The API standards required by the ASVS rules include:

- 2020 API Standard 653 "Tank Inspection, Repairs, Alteration and Reconstruction"
- 2021 API Standard 2350 "Overfill Prevention for Storage Tanks in Petroleum Facilities"
- 2019 API Recommended Practice 2001 "Fire Protection in Refineries"
- 2021 API Standard 650 "Welded Tanks for Oil Storage"

Complete the following steps to create an API account and access the applicable API standards required.

1. Go to the Purchase API Standards & Software webpage[25] or type "**API Purchase**" into an internet search and press Enter Key. Scroll down and left click the mouse button on "**Purchase API Standards & Software**."
2. Left click the mouse button on "**VISIT THE API WEBSTORE**" for API publications.
3. Left click the mouse button on "**Login or Register**" located on top right corner of webpage to register. Registration is a requirement to purchase the API standards.
4. Left click the mouse button on "**Register**" after the message "**Don't have an account**"?
5. Type your "**First Name, Last Name, Company** (auto detect) and **Email**" and left click the mouse button on "**VERIFY EMAIL**."
6. Go to the email account you provided to find the verification code.
7. Enter the verification code and left click the mouse button on "**CONTINUE WITH REGISTRATION**."
8. Generate a new password and left click the mouse button on "**CREATE**."
9. Type the desired API Standard and left click the mouse button on "**BROWSE ALL**" for pricing information.
10. Left click the mouse button on "**ADD TO CART**" to different pricing options
11. Select your publication option (PDF, print edition, or both) and click left (+/-) the mouse button for the desired amount. Left click the mouse button on "**ADD TO CART AND CHECKOUT**."
12. Left Click the mouse button on "**Change**" to verify the correct "**Shipping Information**" as requirement for state tax purposes.

25. www.api.org/products-and-services/standards/purchase

13. Left Click the mouse button on "**Payment Method**" and "**I have read and agree to the EULA and Privacy Policy**" after reading it and left click on "**PLACE ORDER**" to purchase.

Appendix C – NFPA Resources

NFPA Resources

Complete the following steps to create an NFPA account and access the 2021 NFPA 30 Chapter 22 Flammable and Combustible Liquids Code. Please note there are options for a free Read-Only version or to purchase a digital edition or a print edition.

1. Go to the Free access NFPA codes and standards[26] webpage or type "NFPA free access" on a web browser and press Enter Key to find the link.
2. Before creating account, scroll down to the bottom of the web page and left click the mouse button on "**Privacy Policy**" and "**Terms of Use**" to read the NFPA user agreements.
3. Scroll back to the top right of the webpage and move the mouse to select the middle symbol with an icon of the head and body of a person, use the drop-down menu and left click the mouse button on "**Log in/Create Account**."
4. Use mouse button to left click on "**Create an account**."
5. Type your email address and use mouse button to left click on "**Send verification code**."
6. Go to your email account to get the verification code.
7. Type in your "Verification Code" and left click the mouse button on "**Verify Code**."
8. Fill out mandatory fields (New Password, Confirmed New Password, First and Last Name, and Organization. Left click the mouse button on **"Create**."
9. Type "**NFPA 30**" under search bar at the top of the link and press enter.
10. Left click the mouse button on "**Products(#)**" tab.
11. Scroll down and left click the mouse button on **"+Show more**" under "**Edition**" on the right panel.
12. Left click the mouse button on "**2021**" box for the year edition that applies and listed on Chapter 338 Rule.
13. Left click the mouse button on "**View Option**" for NFPA 30, Flammable and Combustible Liquids Code.
    a. For free access to "**Read-Only**": Go to Step 14 to Step 17.
    b. To purchase "**Digital Edition available with NFPA LiNK**": Go to Step 18 to Step 19.
    c. To purchase "**Print and Other Formats**": Go to Step 20 to Step 22.
14. For free access to **"Read-Only"**: Scroll down and left click the mouse button on "**View NFPA 30 Development Process**".

26. www.nfpa.org/for-professionals/codes-and-standards/list-of-codes-and-standards/free-access

15. Use drop menu to select "2021 Flammable and Combustible Liquids Code" and left click the mouse button on "**View Free Access**".
16. Left click the mouse button to "**agree**" on the terms.
17. Scroll down on right side panel and left click the mouse button on "**Chapter 22**" for reference on Section 22.4 and Section 22.8.
18. To purchase **"Digital Edition available with NFPA LiNK):** Go back to page from Step 14 and left click the mouse button on "**Choose Your Plan**" with red dot high-lighted for "**Digital Edition available with NFPA LiNK**".
19. Select your Flexible Plan Options by left clicking and follow instructions to purchase by selecting "**Subscribe Now**" or "**Start Your Free Trial**."
20. To purchase **"Print and Other Formats"**: Go back to page from Step 14 and left click the mouse button on "**Choose Your Plan**" with red dot high-lighted for "**Add to Cart**".
21. Left click the mouse button on "**View Cart**."
22. Left click the mouse button on "**Checkout**" and follow steps to pay for physical references.

Appendix D – Helpful Links

Additional Resources

- Visit Title 30 Texas Administrative Code (30 TAC) Chapter 338, Aboveground Storage Vessel Safety (ASVS) Program[27] for information about the program requirements.
- Visit 40 CFR Part 68[28] for the applicable version (as of Aug. 24, 2023) with respect to 30 TAC Chapter 338.
- Visit 40 CFR Part 112[29] for the applicable version (as of Aug. 24, 2023) with respect to 30 TAC Chapter 338.
- Visit the TCEQ Aboveground Storage Vessels Safety (ASVS) Program webpage[30] to find more information about the program requirements, program contact information, and sign up for ASVS updates.
- Use STEERS (State of Texas Environmental Electronic Reporting System)[31] to register your facility.
- Visit EPA's Guidance for Facilities on Risk Management Programs (RMP) webpage[32] for information on creating and implementing your RMP.
- Visit EPA's Oil Spills Prevention and Preparedness Guidance and References webpage[33] for more information about the Spill Prevention, Control, and Countermeasure rule.
- Visit EPA's Facility Response Planning: Compliance Assistance Guide webpage[34] for more information about creating your facility response plan.
- Visit the NFPA Codes and Standard Free Access webpage[35] to get copies of the NFPA standard necessary for compliance with the ASVS rules.
- Visit the Purchase API Standards and Software webpage[36] to get copies of the API standards necessary for compliance with the ASVS rules.
- Visit the American Petroleum Institute's API Inspector Search Tool[37] to search for a certified API 653 inspector by last name or certification ID number.

27. texas-sos.appianportalsgov.com/rules-and-meetings?chapter=338&interface=VIEW_TAC&part=1&title=30
28. www.ecfr.gov/on/2023-08-24/title-40/chapter-I/subchapter-C/part-68/subpart-C
29. www.ecfr.gov/on/2023-08-24/title-40/chapter-I/subchapter-D/part-112?toc=1
30. www.tceq.texas.gov/permitting/asvs
31. www3.tceq.texas.gov/steers/
32. www.epa.gov/rmp/guidance-facilities-risk-management-programs-rmp#general
33. www.epa.gov/oil-spills-prevention-and-preparedness-regulations/oil-spills-prevention-and-preparedness-guidance
34. www.epa.gov/oil-spills-prevention-and-preparedness-regulations/facility-response-planning-compliance-assistance
35. www.nfpa.org/for-professionals/codes-and-standards/list-of-codes-and-standards/free-access
36. www.api.org/products-and-services/standards/purchase
37. inspectorsearch.api.org/