CALIFORNIA CODE OF REGULATIONS
TITLE 14. NATURAL RESOURCES
DIVISION 1. FISH AND GAME COMMISSION - DEPARTMENT OF FISH AND GAME
SUBDIVISION 4. OFFICE OF SPILL PREVENTION AND RESPONSE
CHAPTER 3. OIL SPILL PREVENTION AND RESPONSE PLANNING
SUBCHAPTER 3. OIL SPILL CONTINGENCY PLANS

Note: This document contains excerpts from 14 CCR 817, focused on reasonable worst case spill volume calculations.

§ 817. Marine Facility Contingency Plans.

§ 817.02. Marine Facility Plan Content (Except for Those Small Marine Fueling Facilities Addressed in Section 817.03 of This Subchapter).

(d)(1)Reasonable Worst-Case Spill.

To calculate the response planning volume, it is first necessary to determine the reasonable worst-case spill for each marine facility, as follows:

(A) For marine facilities (except on-shore pipelines (not subject to chapter 6.67 (commencing with section 25270) or chapter 6.7 (commencing with section 25280) of division 20, Health and Safety Code) which are addressed in subsection (d)(1)(B), offshore platforms which are addressed in subsections (d)(1)(C) and (d)(1)(D), and offshore pipelines which are addressed in subsection (d)(1)(E):

1. The loss of the entire capacity of all in-line, break-out and portable storage tank(s), not subject to chapter 6.67 (commencing with section 25270) or chapter 6.7 (commencing with section 25280) of division 20, Health and Safety Code, needed for the continuous operation of the pipelines used for the purposes of handling or transporting oil, taking into account the existence of volume limiting factors including, but not limited to, line pressure, gravity, and the availability and location of the emergency shut-off controls; plus

2. The amount of additional spillage that could reasonably be expected to enter California marine waters during emergency shut-off, transfer or pumping operations if a hose(s) or pipeline(s) ruptures or becomes disconnected, or if some other incident occurs which could cause or increase the size of an oil spill. The spillage must be calculated as follows: the maximum time to discover the release from the pipe or hose in hours, plus the maximum time to shut down flow from the pipe or hose in hours (based on historic spill data or the best estimate in absence of historic spill data for the marine facility) multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum relief valve setting or maximum system pressure when relief valves are not provided) plus the total linefill drainage volume expressed in barrels.

3. The Administrator has the discretion to accept that a marine facility can operate only a limited number of the total pipelines at a time. In those circumstances, the reasonable worst-case spill volume must include the drainage volume from the piping normally not in use, in addition to the volume determined in (1) and (2), above.

(B) For on-shore pipelines not subject to chapter 6.67 (commencing with section 25270) or chapter 6.7 (commencing with section 25280) of division 20, Health and Safety Code, the largest volume in barrels, of the following:

1. The pipeline's maximum release time in hours (i.e., the time between pipeline rupture and

discovery), plus the maximum shut-down response time in hours (based on historic discharge data or in the absence of such historic data, the operator's best estimate), multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum daily capacity of the pipeline), plus the largest line drainage volume after shutdown of the line section(s) in the response zone expressed in barrels. (As used in this subsection: line section means a continuous run of pipe that is contained between adjacent pressure pump stations, between a pressure pump station and a terminal or break-out tank, between a pressures pump station and a block valve, or between adjacent block valves; response zone means a geographic region either along a length of pipeline or including multiple pipelines, containing one or more adjacent line sections, for which the operator must plan for the deployment of, and provide spill response capabilities. The size of the zone is determined by the operator after considering available capabilities, resources, and geographic characteristics); or

2. The largest foreseeable discharge for the line section(s) within a response zone, expressed in barrels, based on the maximum historic discharge, if one exists, adjusted for any subsequent corrective or preventive action taken; or

3. If the response zone contains one or more break-out tanks, the capacity of the single largest tank or battery of tanks within a single secondary containment system, adjusted for the capacity or size of the secondary containment system, expressed in barrels.

(C) For offshore platforms (except those drilling a new well which are addressed in subsection (d)(1)(D)):

1. Total tank storage and flow line capacity; plus

2. That portion of the total linefill capacity which could be lost during a spill, taking into account the availability and location of the emergency shut-off controls and the effect of hydrostatic pressure; plus

3. The amount of additional spillage that could reasonably be expected to enter marine waters during emergency shut-off, transfer or pumping operations if a hose or pipeline ruptures or becomes disconnected, or some other incident occurs which could cause or increase the size of an oil spill. The calculation may take into consideration other safety devices, emergency reaction times and maximum transfer rates; plus

4. The daily production volume for 30 calendar days from an uncontrolled blowout of the highest capacity well associated with the marine facility. In determining the daily discharge rate, the reservoir characteristics, casing/production tubing sizes, and historical production and reservoir pressure data must be taken into consideration.

(D) For offshore platforms with active well drilling:
The owner or operator of a platform at which a new well is being drilled must submit a proposed reasonable worst-case oil spill calculation for platform operations to the Administrator. The proposed worst-case spill is the daily volume possible for 30 calendar days from an uncontrolled blowout taking into consideration any known reservoir characteristics. The proposed calculation will be reviewed by the Administrator during the plan review and approval process to determine if it adequately addresses the oil spill potential of the new well system.

(E) For offshore pipelines, the largest volume in barrels of the following calculation:
The pipeline system leak detection time, plus the shutdown response time, multiplied by the highest measured oil flow rate over the preceding 12-month period. For new pipelines, use the predicted oil flow rate. Add to this calculation the total volume of oil that would leak from the pipeline after it is shut in. This volume should be calculated by taking into account the effects of hydrostatic pressure,

gravity, frictional wall forces, length of pipeline segment, tie-ins with other pipelines, and other factors.

§ 817.03. Small Marine Fueling Facility Plan Content.

(d)(1) Reasonable Worst-Case Spill.

To calculate the response planning volume, it is first necessary to determine the reasonable worst-case spill size as follows:

(A) For small marine fueling facilities (except for mobile transfer units which are addressed in subsection (B) below):

1. The amount of additional spillage that could reasonably be expected to enter California marine waters during emergency shut-off, transfer or pumping operations if each hose or pipeline ruptures or becomes disconnected, or if some other incident occurs which could cause or increase the size of an oil spill. The spillage must be calculated as follows: the maximum time to discover the release from the pipe or hose in hours, plus the maximum time to shut down flow from the pipe or hose in minutes or hours (based on historic spill data or the best estimate in absence of historic spill data for the facility) multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum relief valve setting or maximum system pressure when relief valves are not provided) plus the total linefill drainage volume expressed in barrels.

(B) For mobile transfer units:

1. The total tank storage capacity.

(C) The calculations, and such parameters as flow rates, linefill capacities and emergency shutoff times, that are used to determine a small marine fueling facility's reasonable worst-case spill must be submitted as part of the plan. The Administrator may review and test these parameters as part of the drill conducted in accordance with subsection 816.03(b).

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§ 817.04. Inland Facility Oil Spill Contingency Plans.

(j)(4) The reasonable worst case spill volume for an inland facility, calculated in barrels, is as follows:

(A) Production Facility: 10 percent of the daily average of oil and condensate of the largest producing well (excluding produced water) as reported to the Department of Conservation, Division of Oil, Gas, and Geothermal Resources each year pursuant to sections 3406 and 3227 of the Public Resources Code. Although this volume does not include the water content (produced water), the owner or operator will be required to respond to and cleanup the impacts of produced water.

(B) Transmission Pipeline: Regardless of the following methodology used for determining the reasonable worst case spill volume for a transmission pipeline, the calculations and parameters used shall be submitted as part of the contingency plan. The reasonable worst case spill volume is the largest of the following:

1. The pipeline's maximum release time in hours (i.e. the time between pipeline rupture and

discovery), plus the maximum shutdown response time in hours (based on historic spill data or in the absence of such historic data, the operator's best estimate), multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum daily capacity of the pipeline), plus the largest line drainage volume after shutdown of the line section(s). Line section means a continuous run of pipe that is contained between adjacent pressure pump stations, between a pressure pump station and a terminal or break-out tank, between a pressure pump station and a block valve, or between adjacent block valves; or

2. The largest foreseeable discharge for a line section based on the maximum historic spill, if one exists, adjusted for any subsequent corrective or preventive action taken; or

3. If there are one or more breakout tanks, then the capacity of the single largest tank or battery of tanks within a single secondary containment system, adjusted for the capacity or size of the secondary containment system.

(C) Railroad: The reasonable worst case spill volume for a railroad is based on the railroad's maximum speed in California as stated in the most recent timetable the railroad has filed with the Federal Railroad Administration, and the amount of oil in bulk transported. Regardless of speed or track class, the minimum reasonable worst case spill volume for a railroad is the largest single tank car the railroad may include in a consist. If a railroad moves more than one tank car in a consist then the reasonable worst case spill volume is based on the larger of either the volume of one tank car or a percentage of the total oil in bulk transported, as follows:

If the Maximum Speed per the Timetable is:	**Then the RWCS volume is the higher of:**
10 mph	One tank car or 1% of all oil in bulk
25 mph	One tank car or 5% of all oil in bulk
Greater than 25 mph	One tank car or 20% of all oil in bulk

(D) For an inland facility not otherwise described in subsections (A), (B), or (C):

1. The loss of the entire capacity of all in-line, break-out and portable storage tanks not subject to Chapter 6.67 (commencing with Section 25270; aboveground petroleum storage) or Chapter 6.7 (commencing with Section 25280; underground petroleum storage) of Division 20, Health and Safety Code, needed for the continuous operation, used for the purposes of handling or transporting oil, taking into account the existence of volume limiting factors including, but not limited to, line pressure, gravity and the availability and location of the emergency shut-off controls; plus

2. The amount of additional spillage that could reasonably be expected to enter waters of the state during emergency shut-off, transfer or pumping operations if a pipeline or hose ruptures or becomes disconnected, or if some other incident occurs which could cause or increase the size of an oil spill. The spill shall be calculated as follows: the maximum time to discover the release from the pipeline or hose in hours, plus the maximum time to shut down flow from the pipeline or hose in hours (based on historic discharge data or the best estimate in absence of historic discharge data for the inland facility) multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum relief valve setting or maximum system pressure when relief valves are not provided) plus the total line drainage volume expressed in barrels.