CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
OFFICE OF SPILL PREVENTION & RESPONSE

AMENDED INITIAL STATEMENT OF REASONS
Including
ECONOMIC IMPACT ASSESSMENT
for
Adding Section 820.02
to
Title 14, California Code of Regulations
Regarding Oil Spill Equipment Deployment Drills & Tabletop Exercises

Date of Initial Statement of Reasons: December 19, 2017

Date of Amended Statement of Reasons: May 22, 2018

Dates and Locations of Hearings:

Public Hearing: Date: February 13, 2018
Time: 9:00 a.m. – 12:00 p.m.
Location: Natural Resources Building
1416 Ninth Street, Sacramento, CA 95814

Public Hearing: Date: February 22, 2018
Time: 1:30 p.m. – 4:30 p.m.
Location: Associated Builders & Contractors
19466 Flight Path Way, Bakersfield, CA 93308

For the 15-day public comment period, the new changes are indicated as:
- Added text is shown in **bold** and **double underline**.
- Deleted text is shown in ~~double strikethrough~~.

I. Description of Regulatory Action

(a) General Background

The California Department of Fish and Wildlife (Department), Office of Spill Prevention & Response (OSPR) is proposing to adopt through this regular rulemaking the requirements for inland facilities to initiate and participate in tabletop exercises and equipment deployment drills to prepare for oil spills into state waters, pursuant to statutory changes made in 2014.

In 2014, Senate Bill 861 was signed by the Governor and took effect immediately. It created a statewide oil spill prevention, preparedness, and response program by expanding the long-standing marine program to apply to all surface waters of the state. This bill authorized the OSPR Administrator to promulgate emergency regulations to implement this program to protect *inland* surface waters. SB 861 provided that the emergency regulations would be valid for 12 months.

An emergency rulemaking action for equipment deployment drills and tabletop exercises requirements for inland facilities was approved by the Office of Administrative Law in September 2015 (OAL #: 2015-0825-04EFP). As emergency regulations, they did not go through the formal comment process. The emergency regulations were readopted in September 2016 and again in August 2017 (OAL #'s: 2016-0822-01EFP and 2017-0727-05EFP, respectively). OSPR is now initiating this regular rulemaking action to formally adopt the general substance of the emergency regulations, with additional relevant revisions that reflect lessons learned from implementing the emergency regulations and input obtained through additional outreach.

(b) Equipment Deployment Drills and Tabletop Exercises

Since 1991, the *Lempert-Keene-Seastrand Oil Spill Prevention & Response Act* (Act) has required the OSPR Administrator to implement activities relating to oil spill response, including drills and exercises. Operators of certain facilities and large vessels have been required to demonstrate their ability to respond to oil spills through equipment deployment drills and tabletop exercises. Before 2014, these mandates only applied to potential oil spills into tidally influenced waters (e.g. marine waters). Government Code sections 8670.5 and 8670.29.

The Administrator is required to periodically carry out announced and unannounced drills to test response and cleanup operations, equipment, contingency plans, and procedures. This includes establishing performance standards that each operator and rated oil spill response organization (OSRO) must meet during a drill or exercise. Government Code sections 8670.10(a)(1)(2) and 8670.31(e).

A facility owner or operator must provide for training and drills on elements of the contingency plan at least annually, with all elements of the plan subject to a drill at least once every three years. Government Code section 8670.29(b)(9).

This type of spill response preparation generally consists of two aspects: 1) practice deployment of equipment, and 2) scenario-based "tabletop" discussions and role-playing within an incident command for a simulated incident. The Administrator has had drills and exercise regulations in place since the early 1990's (promulgated at 14 CCR 820.01).

Also, oil spill response organizations that are "rated" by the Administrator must voluntarily submit to occasional unannounced equipment deployment drills, and conduct their own self-initiated drills. Government Code section 8670.30.

II. Problem the Regulatory Action Intends to Address

As stated above, Government Code section 8670.10 requires the Administrator to establish performance standards for drills and exercises. Senate Bill 861 expanded the statutory requirements of the Act from marine waters to also apply to operators of inland facilities that pose an oil spill threat to inland surface waters, creating a statewide oil spill planning, preparedness, and response program. Thus, the Administrator must promulgate these regulations for inland facilities that pose a risk to inland waterways.

The inland facility operators generally consist of oil producers, oil pipelines, railroads transporting oil, and refineries. These types of facilities are similarly found along the coast. However, inland waters differ from the ocean and coastal shorelines. Inland waterways consist of lakes, rivers, streams, wetlands, but also dry washes. As a result, in discrete ways, these regulations differ from the preexisting regulations for marine facilities in a coastal environment.

III. Addendum

Minor modifications to the proposed regulations have been made. Additionally, there are modifications to the Economic and Fiscal Impact Statement (form STD 399). This Amended ISOR adds statements of necessity, other clarifying statements, and minor editorial changes.

The additions to this Amended ISOR are indicated in **bold, double underlined text**; deletions are indicated in ~~double strikeout text~~. Minor punctuation edits, while illustrated similarly in the text, are not explained in this Amended ISOR.

Pursuant to Government Code Section 11347.1, OSPR will provide public notice of the modified regulatory text, the Amended ISOR, and other associated documents, for a minimum of 15 days prior to considering the proposed regulations for adoption.

IV. Purpose, Rationale, and Necessity for the Amendment, Addition, or Repeal of the Regulations

The proposed regulations implement, interpret, and add specificity to the drills and exercises provisions of the Act as it relates to inland facilities that pose a threat of an oil spill to inland waters.

Federally, the National Preparedness for Response Exercise Program (PREP) is the basis for all oil spill drills and exercises. PREP was developed in the early 1990's to establish a workable exercise program that meets the intent of the Oil Pollution Act of 1990 (OPA 90). (Title 33 United States Code §1321 (j)(6)(7)). PREP provides a mechanism for compliance with the federal exercise requirements. PREP is a unified federal effort and satisfies the exercise requirements of the U.S. Coast Guard (USCG), EPA, Pipeline and Hazardous Materials Safety Administration (PHMSA), and the Bureau of Safety and Environmental Enforcement (BSEE). PREP is the standard and structure used by industry across the country.

OSPR's marine equipment deployment drills and tabletop exercises have been based upon and are consistent with PREP. (See section 820.01, Title 14, Code of Regulations)

The PREP structure helps to clarify exercise objectives and provides a methodology for evaluating compliance with exercise regulations. PREP does not mandate a given exercise design process. Plan holders are free to design exercises that meet the PREP objectives as well as their own internal ones. The PREP Guidelines describe the minimum expectations for ensuring adequate response preparedness.

OSPR has over 20 years of experience with marine equipment deployment drills and tabletop exercises. The marine regulations have been refined over the years and continue to prove effective. The marine drills and exercises regulations are well understood by industry, Federal counterpart agencies, and local agencies. The proposed inland facility drills and exercise regulations are closely modeled after the existing requirements for marine facilities. Thus, these inland regulations will seem familiar to operators that also have marine operations. However, where necessary to reflect differences between the marine and inland environments, there are differences that distinguish inland facility drills and exercise standards from marine standards.

OSPR has gained valuable feedback from industry and experience from implementing these new mandates over the past year and a half. Additional revisions have been made to the text of the emergency regulations reflecting that feedback.

The discussion below sets forth the rationale for each regulatory provision being added.

*Section 790 **General** Definitions **and Abbreviations***

With these and other regulations, OSPR is trying to ensure that definitions that are widely referenced are only listed in Title 14, section 790 and not duplicated elsewhere. Thus, as related to drills and exercises, the terms "Equipment Deployment Drill" and "Tabletop Exercise" are being defined in a separate but concurrent regulatory package regarding oil spill contingency plans and definitions (OAL #: 2017-0727-04EFP).

These two definitions from Title 14, section 790 are presented here for reference:

> (e)(5) “Equipment Deployment Drill” means the testing of oil spill response equipment identified in an oil spill contingency plan or an oil spill response organization application, through its actual deployment and operation as it would be used in spill response efforts in an environment of similar habitat, water depth, current velocity, tidal range, and substrate, where the equipment may need to be used in an actual oil spill response.
>
> (t)(1) “Tabletop Exercise” means an exercise of an oil spill contingency plan and the spill management response efforts without the actual deployment of response equipment. A tabletop exercise usually involves discussion and roleplaying within an incident command for response to a simulated spill.

Section 820.02 . Drills and Exercises – Inland Facilities

Subchapter 3.7. Drills and Exercises – Inland Facilities

The subchapter number is revised to ensure that it falls logically in numerical order and therefore easily located in print form in the California Code of Regulations. This is a non-substantive change.

Subsection (a):

Purpose: The purpose of subsection (a) is to describe the applicability of these regulations.

Necessity: Subsection (a)(1) describes the intent and general applicability of this section, to identify to whom these drill and exercise requirements apply.

Subsection (a)(2) defines the three tiers by which inland facilities will be classified based on their reasonable worst case spill volumes. The tiers are necessary to reasonably allocate drill and exercise requirements commensurate with the severity of the potential threat posed to the environment. The greater the volume of oil involved, the greater the risk. The tiers were created based on the drill coordinators and spill responders knowledge of what it takes to respond to a reasonable worst case spill. The tiers ask for more objectives of a plan holder/spill management team based on their volume and potential impact from a release. The specific volume delineation between Tier I and Tier II were based on a recommendation from the California Independent Petroleum Association (CIPA). This trade organization represents many of the small, independent operators in California. With OSPR’s limited specific knowledge on best practices for these product facilities, OSPR appreciated these recommendations, and in further consultation with the Division of Oil and Gas and Geothermal Resources (DOGGR),

proposes these standards as a reasonable place to begin regulating drills and exercises for types of operations.

The table below provides a rough summary of the three tiers' requirements. Although not set forth in this table, the proposed regulations further differentiate requirements within each objective. For example, the "Liaison Officer" objectives for Tier I are more substantial than for Tier II.

INLAND FACILITY TABLETOP EXERCISES

(14 CCR §820.02)

TIER I	TIER II	TIER III
Defined by a reasonable worst case spill volume of >1,000 bbls	Defined by a reasonable worst case spill volume of 500 to 999 bbls	Defined by a reasonable worst case spill volume of up to 499 bbls
Spill Management Team Tabletop Exercise (announced or unannounced) conducted annually, with all objectives being tested and successfully met over a 3 year period. (§820.02(b)(1)(A))	Spill Management Team Tabletop Exercise (announced or unannounced) conducted annually, with all objectives being tested and successfully met over a 3 year period. (§820.02(b)(2)(A))	Spill Management Team Tabletop Exercise (announced or unannounced) conducted annually, with all objectives being tested and successfully met within a calendar year. (§820.02(b)(3)(A))
Each has separate exercise objectives to meet. Tier I	Each has separate exercise objectives to meet. Tier II	Each has separate exercise objectives to meet. Tier III

Tabletop Exercise Objectives for Tier I facility plan holders shall be tested and staffed to a degree that is commensurate with the exercise scenario and scope, and shall include, but not be limited to the following: (1) Notifications (2) Staff Mobilization (3) Incident Command System (4) Safety Officer (5) Public Information Officer (6) Liaison Officer (7) Operations (8) Planning (9) Logistics (10) Finance (refer to §820.02(f) for details on each of the above)	Tabletop Exercise Objectives for Tier II facility plan holders shall be tested and staffed to a degree that is commensurate with the exercise scenario and scope, and shall include, but not be limited to the following: (1) Notifications (2) Staff Mobilization (3) Incident Command System (4) Safety Officer (5) Public Information Officer (6) Liaison Officer (7) Operations (8) Planning (9) Logistics (10) Finance (refer to §820.02(g) for details on each of the above)	Tabletop Exercise Objectives for Tier III facility plan holders shall be tested and staffed to a degree that is commensurate with the exercise scenario and scope, and shall include, but not be limited to the following: (1) Notifications (2) Staff Mobilization (3) Incident Command System (4) Safety Officer (5) Public Information Officer (6) Liaison Officer (7) Operations (8) Planning (refer to §820.02(h) for details on each of the above)
For those objectives not successfully met, an additional exercise within 180 calendar days may be required. (§820.02(k)(2)(C)		

All Tiers must comply with the following:

- Spill reporting or notification procedures shall be conducted quarterly. (§820.02(b)(1)(B); (b)(2)(B); (b)(3)(B))
- If relying on own on-water containment and recovery equipment, semi-annual equipment deployment drills shall be conducted and scheduled in the first 6 months of the calendar year. If a second drill is required, it shall be scheduled in the second 6 months of the calendar year. (§820.02(d)(4))
- Must give Administrator 30 **calendar** days advanced notice for equipment deployment drills; 60 **calendar** days for all in-state tabletop exercises. (§820.02(d)(1))
- Must provide written notice to the Administrator to participate in the exercises and complete the Exercise Notification Form. (§820.02(d)(5))
- Only two in-state tabletop exercises are permitted to be scheduled per weekday. (§820.02(d)(3))
- The contingency plan shall be available and used at all required drills and exercises. (§820.02(d)(8))
- Documentation is required to be eligible for credit for a tabletop exercise or an equipment deployment drill. (§820.02(k)(1))
- Credit may be granted in response to actions taken during a spill response. (§820.02(j)(3))
- Reconsideration and Hearing Procedures are the same for each Tier. (§820.02(l))

Subsection (a)(3) grants the Administrator the flexibility to align a facility with a more appropriate tier, based on good cause. This would align response capabilities with the risk posed, to ensure like-facilities are subject to the same expectations.

Subsection (b):

Purpose: Subsection (b) describes the type of tabletop exercises and equipment deployment drills that inland facility operators must engage in, based on their Tier.

Necessity: Subsection (b) is necessary to let plan holders know the type and frequency of the required exercises and drills, to test and evaluate the operator's readiness to manage a response. As stated above, this is substantially based upon the PREP requirements to test oil spill response capabilities.

Subsections (b)(1)(A)1., (2)(A)1., and (3)(A)1. describe how often testing spill management team objectives must occur, and the time period for testing all objectives. The times are the same as those for marine facilities (14 CCR 820.01(a)(1)).

All plan holders must conduct at least one exercise each year testing their spill management team. This aligns with the marine facility exercise requirements and PREP. Based on staff experience, OSPR has concluded it is necessary to require at least one exercise a year, to ensure a minimum level of familiarization with responding to a spill without relying on actual spills for experience. Moreover, industry is very accustomed to this.

For Tier I and Tier II facilities, an annual exercise gives the plan holder an opportunity to complete objectives as part of a three-year cycle. They can work some or all of the objectives annually, but must complete all of them within the three-year cycle. Annual exercises help ensure best achievable protection of state waters.

Subsections (b)(1)(A)2., (2)(A)2., and (3)(A)2. allow the plan holder to exercise any number of objectives they may want to test during an exercise.

Subsections (b)(1)(A)3., (2)(A)3., and (3)(A)3. describe the amount of time the plan holder has to complete all of the exercise objectives. Tier I and Tier II plan holders have three years; Tier III plan holders have one year.

The three-year timeframe for tabletop exercises began back in the 1990s and was a part of the negotiated rulemaking process agreed upon between the USCG and all applicable states, including all the west coast states from Alaska to California. This agreement was to assist in consistency between both the federal and state governments, as well as consistency between states sharing a common marine waterway (on the west coast - Alaska, Washington, Oregon and California; on the Gulf Coast - Texas, Louisiana and Florida). This "three-year cycle" has worked well for the marine environment, and allows a plan holder the ability to break up drill objectives and focus on areas that need attention or improvement, rather than having to fit all objectives into a single exercise, every time. Sometimes a more circumscribed drill

designed to test a new federal or state policy or guideline, such as identification of potential places of refuge or dispersant use evaluation, is warranted.

Most Tier I and Tier II plan holders use the three-year cycle to work up to a worse case drill; year 1 is a small drill, year 2 a larger drill, and year 3 is a worse case drill. If OSPR allowed completion of all objectives “whenever” within three years, many plan holders would wait until the last year and try to try accomplish them all in one exercise – which may or may not be successful. This is another reason for annual and quarterly requirements, as described above.

To ensure the ability for a Tier I or Tier II plan holder to be able to pull together “all objectives at one time,” as would be required in an actual spill response, OSPR requires that the entire plan must be tested, in its entirety, once every three years in California. This three-year cycle, allowing for both focused and all-encompassing exercises, has proven very effective for California. On the other hand, allowing for an exercise period greater than three years presents potential problems related to frequency of training and staff turnover and would not be consistent with the best achievable protection standard. Additionally, these plan holders are larger companies that are generally exposed to, or are actually testing their response capabilities in other contexts on a regular basis; they often work through some or all of the same Tier III objectives each year.

Tier III plan holders pose smaller risks, thus they have fewer objectives. Tier III plan holders must accomplish all the Tier III objectives each year because these are the critical objectives for initial response activities. The Tier III objectives need to be collectively incorporated for an effective initial response exercise. It would be inefficient and ineffective to spread these objectives over a three year period. By comparison, Tier I and Tier II plan holders have more objectives and thus are working on objectives over a three year period. Additionally, breaking up the set of Tier III set of objectives across separate exercises over several years would not be logical, realistic, or valuable.

Subsections (b)(1)(B), (2)(B), and (3)(B) explain that spill notification procedures must be practiced quarterly. This aligns with the marine regulations and PREP, thus some or most plan holders will be familiar with this. This is necessary because personnel or phone numbers change often, and a quarterly requirement ensures that all provided information is up to date. Since facilities do not always have the same employees on-site each day, it is important that each facility conduct this exercise quarterly to ensure that the personnel are familiar with the procedures for mitigating a spill or potential spill occurring from the facility.

Regarding blanket plans (plans that cover more than one facility; defined in section 790), OSPR heard from industry that some operators with multiple facilities can have incident reporting protocols that may be different based on the type of facility (e.g., a

railyard versus an actual train). Thus, subsections (b)(1)(B), (2)(B), and (3)(B) provide that whatever protocol an operator has for reporting oil spills at different facilities, each process must be followed to contact the qualified individual, the spill management team representatives, and the cleanup contractor.

Subsections (b)(1)(C), (2)(C), and (3)(C) explain how often a plan holder must practice using their own on-water equipment if they are not relying on a cleanup contractor. For all Tiers, the equipment must be tested semi-annually. This requirement aligns with the marine regulations and PREP. Semi-annual practice will help ensure the equipment identified in their contingency plan is functional and the operators know how to use it by actually performing the tasks of deploying, containing, and recovering an on water spill. Semi-annual practice ensures that operators maintain equipment and train personnel more than once year. Finally, this standard is designed to take into account the turnover of staff while still striving towards best achievable protection.

Subsection (c):

Purpose: This subsection explains when the period begins for plan holders to complete the exercise requirements.

Necessity: Because the Tier I and Tier II three-year exercise cycle is based on calendar years, the September 30th/October 1st cutoff is required to address contingency plans that are approved mid-year. Plans approved during the first three-quarters of the calendar year will still have a reasonable amount of time for plan holders to accomplish some objectives during the year of approval. Plan holders will have been aware of this timeframe during plan development and during the approval process. For plans approved during the last quarter of the calendar year, it is not reasonable to expect plan holders to accomplish a meaningful drill in the last three months; although they are not prohibited from holding an exercise during that time.

Because the Tier III exercise cycle is based on one calendar year, the September 30th/October 1st cutoff is required to address contingency plans that are approved mid-year. For plans approved during the first three-quarters of the calendar year, plan holders will still have a reasonable amount of time to accomplish the Tier III objectives during the year of approval. In addition, they will have been aware that this is a requirement during the approval process. For plans approved during the last quarter of the calendar year, it is not reasonable to expect them to meaningfully accomplish the Tier III objectives during the last three months of the year; although they are not prohibited from holding an exercise during that time.

Subsection (d):

Purpose: The purpose of subsection (d) is to explain how drills and exercises are to be scheduled and designed for credit.

Necessity: This subsection is necessary to provide plan holders with a process so exercises and drills are conducted in a manner that adequately assesses their abilities, and so plan holders are credited for completing exercises and drills. With more than 40 inland facilities, there will be more than 40 tabletop exercises a year. Without a structure for scheduling of drills and exercises, the Administrator would not have a meaningful opportunity to participate and the plan holder would not be guaranteed to receive credit for conducting an exercise or drill. This process is needed so that the Administrator can properly evaluate plan holder performance. In addition, OSPR wants to ensure that it has sufficient personnel to both participate in and evaluate required industry drills. These provisions are substantially similar to the design and scheduling provisions for marine facilities (14 CCR 820.01(d)).

Subsection (d)(1) requires advance notice for a scheduled exercise or drill. OSPR has learned over many years that a 30 **calendar** day advance notification to schedule an equipment deployment drill is necessary for OSPR staff to determine availability and modify staff assignments in order to attend and evaluate the drill. Because equipment deployment drills are less involved than tabletop exercises and the objectives are straight forward, 30 **calendar** days advanced notice is reasonable. However, at least 60 **calendar** days advanced notice is needed for tabletop exercises. This is the minimum timeframe necessary for OSPR staff to assist with planning the exercise, provide exercise design, and coordinate staffing. OSPR staff input is particularly important to developing and completing the environmental unit and alternative response technology objectives. **Revisions are made at (d)(1) to clarify the "days" requirement is calendar days. Calendar days is chosen for consistency with other time frames in OSPR's regulations.**

In (d)(2) and (d)(3), plan holders are required to use an on-line calendar for scheduling exercises and drills. The on-line scheduling calendar has been used for marine facilities for several years, and is successful. It provides plan holders the convenience of selecting their own drill and exercise dates. The limit of only two exercises per day is necessary due to OSPR staff limitations. There are several hundred marine and inland plan holders, which would overwhelm OSPR staff if there were more exercises and drills on any given day. The calendar gives OSPR staff the ability to identify key exercises and drills, and meaningfully participate in their development and execution.

In (d)(4), a plan holder relying on their own on-water response resources is required to have one on-water equipment deployment drill every year. This is aligned with PREP

standards. Equipment deployment drills are pass/fail all objectives must be met. The reason for requiring equipment deployment drills to be scheduled during the first six months of the year is two-fold. First, OSPR wants to ensure that plan holders are maintaining a level of preparedness throughout the year. Having a drill required in the first half of the year allows industry to plan, and OSPR to evaluate a second drill in the second half of the year should the first drill fail. Secondly, OSPR noticed that without this requirement, the drill calendar became unwieldy (too crowded) for the time period between July 1 and December 31. This could be due to plan holders putting of the expense of an equipment deployment drill; or some plan holders may have been waiting to see if they could obtain credit for actual spill response occurring during the year. However, currently no inland plan holders rely on their own on-water cleanup equipment.

Subsection (d)(5) provides how the plan holder can notify OSPR about a scheduled exercise or drill, utilizing an Exercise Notification Form (DFW 1964); this form has long been in use for marine plan holders, and generically is applicable to either marine water or inland water exercises and drills. This ~~subdivision~~**subsection** provides the options for providing notice of the exercise or drill – in-person, by mail, email, or fax.

In (d)(6), if a plan holder needs to reschedule a drill or exercise, they must advise OSPR of the change and follow the same notice process to schedule the new exercise or drill. This is necessary to give OSPR staff time to adjust their schedules, since they would have been relying on the dates already chosen by the plan holder.

In (d)(7), use of Incident Command System (ICS) forms is not required, but is encouraged, to guide the design and accomplishment of exercise objectives. It is crucial that all responders can efficiently identify issues and solutions using a common problem-solving management structure, which the ICS forms provide.

These forms are federally created and are used nationally, and are part of PREP guidelines. The USCG and EPA use these forms during spill response and for exercises. The federal agencies expect operators to be familiar with these forms or use similar forms. These forms have been used for many years and are well known by industry. They are the standard by which any spill expected to last more than several days are organized and documented. OSPR has long encouraged use of these forms by marine facilities. The forms are readily available, for free, on the websites of OSPR, the USCG, the Federal Emergency Management Agency (FEMA), and other federal agencies.

These forms are integrated with the *Incident Management Handbook* (IMH; defined in section 790) for managing a spill. As discussed in OSPR's concurrent rulemaking regarding oil spill contingency plans for inland facilities [OAL File # 2017-0727-04EFP],

use of an incident command system is required by Government Code section 8670.29(b)(2). The IMH is a document published by the USCG and EPA. The IMH provides the preferred management structure, but it is not required.

The ICS forms and the IMH do not need to be included in this regulations package pursuant to 1 CCR 20(c), because: 1) The text of the regulation specifies these documents may be used but are not required; 2) The documents are clearly identifiable; 3) The documents can be readily obtained for free from the websites of the USCG, FEMA, the National Oceanic and Atmospheric Administration (NOAA), or OSPR, or copies can be provided upon request from OSPR; and 4) It would be cumbersome, unduly expensive, or otherwise impracticable to print the forms in the CCR, because the forms are a combined 59 pages and the IMH is near 400 pages.

In (d)(8), the plan must be available and used at exercises and drills. This aligns with the marine regulations and federal regulations. Having a copy of the plan available is important because OSPR staff have done inspections where the operator could not find the contingency plan, or was not familiar with it, particularly the notification sections of the plan. The purpose of the contingency plan is to make employees think about how management of a spill develop, how response resources will be mobilized, and which strategies should be considered. Having a copy of the plan at an exercise or drill allows for re-familiarization with the content of the plan.

In (d)(9), plan holders are advised to be mindful of any other laws or permitting processes that may be applicable to a tabletop exercise or equipment deployment drill.

Subsection (e):

Purpose: Subsection (e) gives the Administrator the ability to call additional drills or exercises based on good cause.

Necessity: The ability to call unscheduled drills is sometimes necessary to accurately assess the ability of plan holders to respond to a spill. Any number of changing circumstances occurring after successfully completed drills and exercises may require OSPR to verify that the plan holder is still able to safely and adequately respond in the event of a spill. For example, OSPR may learn of a significant change in staffing at a facility, or learn that the plan holder's response assets have moved to another part of the state or out-of-state. Subsection (e) gives the Administrator the ability to address the changed circumstance. This provision is aligned with the existing provision for marine facilities (Section 820.01(c)).

Subsection (f):

Purpose: Subsection (f) lists the tabletop exercise objectives that a Tier I inland facility plan holder must accomplish within the three-year period.

Necessity: This subsection is necessary to identify the objectives for the Tier I plan holders. These objectives are aligned with the existing objectives for marine facilities (section 820.01(e)) except the numbers are slightly rearranged here for better organization; and these objectives are very similar to the PREP core elements. Tier I objectives are the most comprehensive, which reflects the severity of the potential environmental threat posed by Tier 1 facilities given they have the largest reasonable worst case spill volume of the three tiers. Thus, these objectives and notifications will be familiar to all Tier 1 inland facility plan holders; they already exercise these objectives in other contexts.

See the above table under subsection (a) for a breakdown of the requirements by tier.

Minor, non-substantive grammatical edits are made at (f)(3), (8.1) and (8.2).

At (f)(7.2) and (7.6) "discharge(d)" is changed to "spill(ed)" for uniformity with the regulations as a whole, as well as defined terms within section 790.

Subsection (g):

Purpose: Subsection (g) lists the tabletop exercise objectives that a Tier II inland facility plan holder must accomplish within the three-year period.

Necessity: This subsection is necessary to identify the objectives for the Tier II plan holders. These objectives are similar to the existing objectives for smaller marine facilities (14 CCR 820.01(f)); and these objectives are similar to the PREP core elements. These objectives are slightly less comprehensive than those for Tier I facilities, which reflects the likelihood that Tier II facilities present a lower environmental risk based on their lower reasonable worst case spill volume. For example, as compared to Tier I objectives, Tier II objectives do not include shoreline protection, volunteer management, or incident command post equipment support. Presently, there are only a few plan holders in the Tier II category. Due to their size, these objectives and notifications may already be familiar to these Tier II inland facility plan holders in other contexts.

See the above table under subsection (a) for a breakdown of the requirements by tier.

At subsection (g)(7.2), "discharge" is changed to "spill" for uniformity with the regulations as a whole, as well as defined terms within section 790.

Subsection (h):

Purpose: Subsection (h) lists the tabletop exercise objectives that a Tier III inland facility plan holder must accomplish within a calendar year.

Necessity: The objectives for Tier III plan holders are significantly less onerous than for Tier I or Tier II plan holders. This is commensurate with the relative environmental risks that Tier III plan holders pose; they have the lowest reasonable worst case spill volume of the three tiers. Based on 20+ years of staff experience, it is reasonable to expect a Tier III plan holder to be able to accomplish this minimum set of exercise objectives.

See the above table under subsection (a) for a breakdown of the requirements by tier.

Subsection (i):

Purpose: The purpose of subsection (i) is to identify the equipment deployment drill objectives for testing on-water equipment owned or controlled by a plan holder.

Necessity: Subsection (i) ensures that plan holders who are not relying on a rated OSRO for on-water response capability can actually accomplish on-water cleanup themselves. A notification to the Office of Emergency Services (OES) documents the beginning of a drill, and gives OES a “heads up” that there is not an actual spill. The plan holder needs be able to mobilize sufficient staff, and with proper communication safely deploy the equipment. These objectives are similar to the existing objectives for marine facilities (14 CCR §820.01(g)). Plan holders that rely on OSRO’s for their on-water response capability do not have equipment deployment drill requirements.

Subsection (j):

Purpose: The purpose of subsection (j) is to explain the process for receiving drill or exercise credit by substituting another activity for these requirements.

Necessity: Subsection (j) allows a plan holder to request credit based on some other activity, such as performance at a real spill, or at an equipment deployment drill or tabletop exercise called by another agency (e.g., USCG). These are aligned with the process for marine facilities (14 CCR 820.01(j)). These provisions increase efficiency for plan holders while ensuring that the activity meets minimum standards for tabletop exercises.

Regarding spills, the incident must at least be of a minimum magnitude. This is to preclude the plan holder from expecting to substitute their exercise requirements with a very small spill that only accomplishes one or two objectives. Spill credit is limited to once every three years in order to discourage plan holders from over-using it and to ensure that plan holders are maintaining a level of preparedness, not just responding

spill to spill without a mechanism for evaluation and further regulatory scrutiny. In some instances, when a plan holder can receive "credit" for a small spill that occurred within the first half of the year, that plan holder may wait until late in the year to plan a required exercise, causing the end of the calendar year to get crowded with events and making it difficult for OSPR to dedicate the necessary resources to participate and evaluate tabletop exercises or equipment deployment drills. Additionally, exercises or drills put together "at the last minute" often do not have good planning or design, and have a higher chance for failure. Finally, OSPR does not wish to encourage industry to use actual spills as substitution for consistent and on-going preparedness - as the very nature of an oil spill is that it only occurs when some part of prevention or preparedness breaks down. An oil spill should not be used as a mechanism to "get around" drills and exercises requirements. That being said, if a plan holder does have a spill within a three-year period of time, it would be unreasonable or unwarranted to exercise or drill the plan holder for objectives that were specifically met in the same year as the actual spill response.

Subsection (k):

Purpose: The purpose of subsection (k) is to explain how exercises and drills are credited, and identifies the required documentation.

Necessity: Subsection (k) explains what is needed to document a drill or exercise to support a request for credit, and how to make the request. These provisions are aligned with the provisions for marine facilities (14 CCR 820.01(h) and (i)).

Subsection (k)(1)(A) explains the documentation necessary to support successful completion of drill or exercise objectives. OSPR has required credit requests for marine plan holders for many years. The documentation required is the minimum necessary for the Administrator to confirm the objectives were successfully met and that recommendations for improvement are considered.

Subsection (k)(1)(B) explains that credit for proper deployment of equipment must be documented utilizing an Equipment Deployment Evaluation Form (DFW 1965). This form has long been in use for marine plan holders, and is generically applicable to either marine water or inland water equipment deployment activities.

Subsection (k)(1)(C) explains that areas for improvement and "lessons learned" should be documented. OSPR has required this for marine plan holders for many years. It helps employees and staff plan and prepare for the future spills or exercises based on mistakes and positives learned during the exercise.

Subsection (k)(1)(D) explains the records must be maintained for three years from the date of the drill or exercise. This is aligned with PREP, and has been required of

marine plan holders for several years. This provides OSPR with time to review the records. And this period of time allows for comparison of plan holder performance over time.

Subsection (k)(2) describes how to request credit. Requests for credit must be submitted within 60 **calendar** days after the drill. This is to avoid losing focus on evaluation of the performance at the drill or exercise. OSPR will review the documents to determine whether the objectives were accomplished. (Note: Support for the use of a new form referenced at subsection (k)(2)(A) – Request for Drill/Exercise Credit-Inland Facilities form DFW 1973 (06/05/17) – is provided as an attachment to this ISOR) **The edit reflected here is to the ISOR only; the regulatory text required no revision.**

For tabletop exercise objectives not met, the Administrator may call for a re-test within 180 **calendar** days. This time period allows the plan holder to review the reasons for the deficiencies, make adjustments, and design and plan another exercise within the timeframe required for the plan holder to meet its exercise objectives and remain compliant. Tier I and Tier II plan holders have three years; Tier III plan holders have one year to meet the required objectives. **The edit reflected here is to the ISOR only; the regulatory text required no revision.**

Subsection (k)(2)(D) covers deficiencies noted by OSPR that may be unrelated to the drill or exercise. The contingency plan process for addressing deficiencies, provided for in section 817.04, shall be used.

Subsection (k)(2)(E) explains that equipment deployment drills are evaluated as pass/fail. This is be because either the deployment occurs or it doesn't. Additionally, this subsection reminds plan holders that failed equipment deployment drills can be required within six months.

In subsection (k)(2)(F), quarterly notification drills are documented by the plan holder, credit does not need to be requested. Because these drills occur frequently, should be easy to accomplish, and documentation is available for inspection upon request, an additional process for providing credit for quarterly notification drills would be unduly burdensome and would be provide little additional value. Consequently, the proposed regulations do not provide a process for requesting or granting credit for quarterly notification drills.

Subsection (l):

Purpose: Subsection (l) describes the process for requesting a reconsideration of an OSPR determination about drill or exercise credit, or noted deficiencies; and for requesting a hearing.

Necessity: Subsection (l) allows a plan holder to contest a determination that credit was denied while assuring that any request for reconsideration is received and responded to by the Administrator expeditiously (as required by Government Code section 8670.31(c)).

This process is substantially similar to the process for marine facilities (14 CCR 820.01(j)). These timeframes, in business days, provide sufficient time for the plan holder and the Administrator to process reconsideration requests.

Authority and Reference

The Authority cited includes the following sections of the Government Code: 8670.7.5 which authorized emergency regulations to implement provisions regarding oil spills from inland facilities; 8670.10 grants the OSPR Administrator the authority to carry out announced and unannounced drills and exercises to test the elements of an oil spill contingency plan; and 8670.29 describes the minimum content that must be in a contingency plan depending on the facility type.

The References cited includes the following sections of the Government Code: 8670.7, 8670.10, 8670.28, 8670.29, and 8670.31 which support the authority for the adoption of and guidelines for oil spill contingency plans, and to which the proposed regulations implement, interpret, and add specificity.

V. Economic Impact Assessment *[Gov. C. §11346.2(b)(2)(A),(5); 11346.3(a)]*

No changes were made to the overall estimate of economic impact. However, in response to requests made of smaller oil producers during the 45-day comment period, an additional analysis was added, investigating the incidence of the economic impacts. Incidence refers to who bears the cost. The original economic analysis assumed that all of the regulatory compliance costs would be passed on to consumers, and thus estimated that cost to consumers in terms of the increased expense of gasoline for a typical year of driving. The revised economic impact analysis retains that analysis but adds another, investigating regulatory compliance costs in the event they are born entirely by oil producers and cannot be passed on to others. These costs are compared to the producers' estimated total revenues from oil production.

(a) What is the evidence supporting a finding of No Significant Statewide Adverse Economic Impact directly affecting business, including the ability of California businesses to compete with businesses in other states?

These regulations will not have a significant statewide adverse economic impact. Based on OSPR's experience implementing the emergency regulations in 2015, about 45 companies are subject to these inland requirements. They will incur some costs of

compliance, described in detail below. Across all four of the related regulations, these costs are estimated at $4 million in the first year (which has already occurred as a result of the emergency regulations) and $2 million annually thereafter. Because oil demand is highly inelastic, ~~nearly all of these costs are expected to~~**most costs will likely** be passed on to consumers. Because there are millions of oil consumers in California, these costs will be spread so thinly across all of them that they will hardly be noticed. For example, the gasoline costs to operate a vehicle for a year is expected to increase ~~39~~**6** cents **as a result of these regulations. *(Note: the 39 cents previously reflected here was a typo and is corrected now to 6 cents)* Should costs be born by producers, the total costs of implementing the regulations are expected to be far less than 1% of total revenues for most producers, thus not impacting economic decisions**.

These are not considered “major regulations” because the economic impact assessment concludes that the impacts, summing both costs and benefits, will be considerably less than $50 million dollars annually.

Tabletop Exercises

With respect to drills and exercises, inland facility plan holders must accomplish certain tabletop exercise objectives. Some larger plan holders have operations both along the coast and in the interior portions of the state. Thus, as a statewide program, these exercise objectives can be accomplished anywhere in the state that is appropriate, not just along the coast.

At a tabletop exercise, the participants will role-play a simulated oil spill and work through resolving hypothetical spill response issues. OSPR has established three tiers of exercise objectives for plan holders based on their reasonable worst case spill volume. The use of tiers will likely reduce exercise costs for existing operators commensurate with their potential environmental risk.

Tier I plan holders are the largest operators; they have the most objectives to accomplish because their potential spill impacts are more extensive. Tier II plan holders are mid-sized operators, with a middle range of objectives. Tier III plan holders are the smallest operators, with the fewest objectives. For the list of objectives, see subsections 820.02(f), (g), and (h).

As of February 2017, under the emergency regulations, OSPR received plans from 42 facilities: 16 in Tier I, 3 in Tier II, and 23 in Tier III. The tabletop exercise cost estimates below are based on marine tabletop exercises as provided to staff by industry.

It is expected that inland tabletop exercise costs will generally be lower than marine tabletop exercise costs for the following reasons:

- Facility rental may be cheaper. For example, a conference room rental in Long Beach is generally more expensive than a similar room in Bakersfield.
- Logistics costs may be cheaper. Exercises can be held at a plan holder's inland facility instead of renting a conference room or other location (assuming the facility has enough space). Inland-based employees that would have to travel to the coast for a marine exercise could now accomplish certain objectives at exercises held at inland facility buildings, reducing travel and setup costs (lodging, equipment rental, etc.).
- OSPR staff experience is that there are fewer participants (e.g., federal, local representatives) at inland exercises, thus reducing costs.

Tier I Plan Holders

Tier I operators are defined by a reasonable worst case spill volume of 1,000 barrels or more. Tier I plan holders have three years to accomplish the required exercise objectives, thus the costs are spread out over three years. It is the plan holder's choice to have one large exercise to accomplish most or all of the objectives, or have several smaller exercises spread over three years to accomplish all the objectives.

The estimated cost for a Tier I tabletop exercise designed to accomplish all objectives ranges from $15,000 to $75,000, depending on logistics, use of consultants, and training. Spread over three years, the cost ranges from $5,000 to $25,000 per year. For all 16 Tier I plan holders, the total cost would be between $80,000 and $400,000 per year (Table 1).

OSPR recognizes there are examples of more expensive drills where costs exceed the estimates here. For example, for a marine PREP drill (which occurs every three years), costs can reach $500,000 to $1,000,000, especially if the host company chooses to accomplish additional objectives beyond those required by OSPR. An event of this size includes costs for airfare, multiple days of lodging, conference rooms, food or catering, multiple days of training, multiple exercise days, several contractors, and involves 200 to 300 people. OSPR does not anticipate any inland tabletop exercises approaching this scale or cost. The new regulatory requirements can be accomplished with fewer people, in fewer days, and thus cost much less.

Tier II Plan Holders

Tier II plan holders are mid-sized operators. They have a reasonable worst case spill volume from 500 to 999 barrels. Like Tier I, Tier II plan holders have three years to accomplish the required tabletop exercise objectives, thus the costs are spread out over three years. The estimated costs per year depend on the methods used to conduct the

exercise and whether or not the facility chooses to hold one exercise or spread them over three years.

To accomplish all Tier II tabletop exercise objectives, the average cost for a Tier II plan holder is estimated at $8,000 to $20,000, depending on their use of consultants. Spread over three years, the cost ranges from $2,667 to $6,667 per year. For all 16 Tier I plan holders, the total cost would be between $8,000 and $20,000 per year (Table 1).

Tier III Plan Holders

Tier III plan holders are the smaller operators. They have a reasonable worst case spill volume from 1 to 499 barrels. Correspondingly, they have the fewest exercise objectives to complete. The exercise objectives for Tier III plan holders test the core elements of response to a spill, and all Tier III objectives must be accomplished each year. Tier III plan holders could accomplish all of the objectives in a single exercise or spread them throughout the year.

The high end estimated annual cost per plan holder, assuming they hired a consultant to develop and plan the exercise, as well as train staff in advance, is approximately $5,000. If an exercise is facilitated by in-house employees at the plan holder's office, the cost could be as low as "donuts and coffee" and some photocopying costs ($100 estimate).

If all 23 Tier III plan holders hired consultants and incurred the maximum estimated expenses, the total cost would be approximately $115,000 (Table 1).

The total estimated annual cost, across all three Tiers, ranges from $90,300 to $535,000. For the purposes of this analysis, we adjust all industry totals assuming there will be 45 plan holders (not 42 as there were when we conducted this inquiry). Normalizing to 45 plan holders, the maximum estimated annual cost is $573,214.

Table 1: Estimated Annual Cost of Drills and Exercises

		Cost/Plan Holder		Total for All Plan Holders	
	Plan Holders	**Low**	**High**	**Low**	**High**
Tier I	16	$5,000	$75,000	$80,000	$400,000
Tier II	3	$2,667	$6,667	$8,000	$20,000
Tier III	23	$100	$5,000	$2,300	$115,000
				$90,300	**$535,000**
Maximum estimated annual cost (45 plan holders):					**$573,214**

Equipment Deployment Drills

Plan holders with terrestrial-only risks (e.g., next to a wash dry most of the year) are not required to drill the deployment of equipment. Plan holders that pose a risk to waterways must demonstrate on-water cleanup capability, which involves drills deploying equipment. These drills may be done by the plan holder or a cleanup contractor, also known as an oil spill response organization (OSRO). Rated OSROs perform their own drills, and plan holders that have contracted with them may rely on those results.

Currently, there are no inland plan holders that have indicated they are relying on their own equipment; they have all contracted with a rated OSRO to provide on-water oil containment and recovery services. Thus, these plan holders have no equipment deployment drill costs. The costs for a plan holder to retain the services of an OSRO are covered under the economic analysis for the contingency plan regulations.

If an inland plan holder wanted to rely on their own equipment for on-water response, they would have equipment drill costs. Such a plan holder would have to periodically demonstrate its capabilities. By comparison approximately 40-50 marine plan holders rely on some amount of their own equipment.

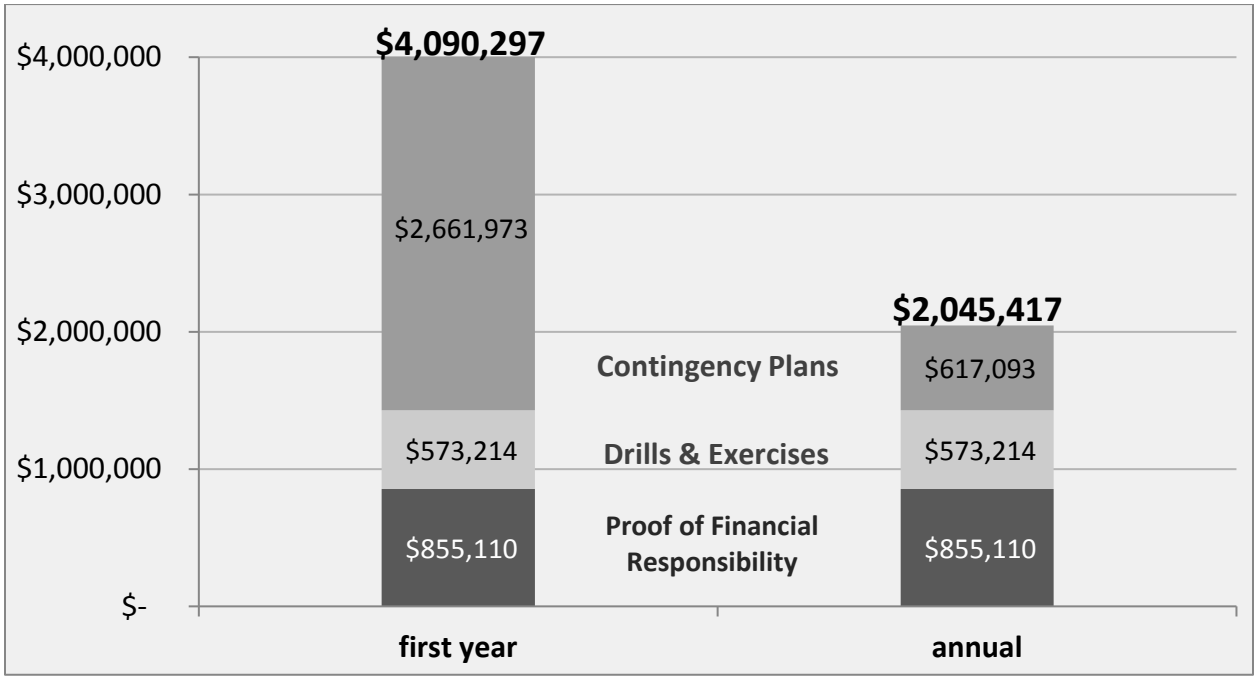
In the future, if an inland plan holder decided to use their own equipment for on-water cleanup, inland on-water deployment costs are expected to be less than ocean deployment costs. Differences include smaller skiffs to pull boom in a river versus larger

ocean-going vessels, less gas consumption for smaller inland vessels, and fewer personnel relative to an ocean spill.

Cumulative Impact

At this time, OSPR is also promulgating regulations for inland facilities regarding: 1) oil spill contingency planning, 2) demonstration of financial responsibility to pay for cleanup and damages, and 3) ratings of oil spill response organizations. The economic impact assessment for each of those requirements is addressed in the Initial Statement of Reasons (ISOR) for each of those rulemakings. Collectively, looking at the costs to comply with all aspects of these four rulemakings (drills and exercises, contingency planning, financial responsibility, and oil spill response organization ratings) across all the affected operators (about 45 facilities), the total cost for industry-wide compliance is expected be about $4 million (Figure 1) in the first year, and $2 million annually in future years. For reasons described in this and other ISORs, this is a high estimate.

Figure 1: Total Cost of All New Oil Spill Preparedness Regulations



Summary of Costs

The estimated costs of all the regulations are described in detail in each of the respective ISOR's, but are presented here for summary purposes:

- Drills and exercises: $573,000 annually
- Contingency plans: $2.7 million in the first year; $617,000/yr annually
- Financial responsibility: $855,000 annually

- Oil spill response organizations: zero (captured under contingency plan analysis)

Total expected cost of the four packages combined: $4 million in the first year; $2 million/year thereafter.

Based on this analysis, the proposed regulations collectively will not have a significant adverse economic impact on businesses in California or their ability to compete with out-of-state businesses. The impacted companies are involved in oil production, oil transport, oil refining, and oil distribution within the state. California receives about two-thirds of its oil from out of state (mostly via tankers coming from Alaska or overseas) and a third of its oil from domestic production within California. Most of the domestic production is from inland locations. Nearly all of the oil consumed in California is refined in the state. All of it is then distributed for sale throughout the state.

In general, businesses from outside of California do not compete with California refineries or transporters (although facilities within California may be owned by a larger corporation based outside of California). Inland producers do compete on the global market with all oil producers worldwide. However, because they are located locally, they have a strong economic advantage over out-of-state competitors due to minimal transport costs. All domestic California oil production is consumed within California.

The increased costs associated with ~~preparing and maintaining contingency plans~~**all four of the regulatory packages** incurred by these companies is unlikely to affect their ability to compete with businesses from outside the state. While OSPR does not have data at the individual company level, we can examine the impact across the industry as a whole. Annual California inland production is approximately 170 million barrels. (California Department of Conservation Monthly Oil and Gas Production and Injection Report (October 2016)) Assuming a market value of $~~50~~**55**/barrel, the value of this annual production is $~~8.5~~**9.4** billion. The estimated total cost of complying with these regulations, across all facilities and companies, is $~~855,110~~**2,045,417** annually. Assuming these costs are all incurred in one year (which is unlikely), this is ~~0.010~~**0.022**% of the total revenues of oil production. If applied to the cost of production, these costs would add $~~0.0050~~**0.012** (~~half of~~**about** a penny) to the price of a barrel of oil~~, and this would only be in the first year~~. Given the normal variability in the price of oil, and the transport price advantage that producers in California have over their overseas competitors (several dollars per barrel), the cost of demonstrating financial responsibility is unlikely to affect their ability to compete with other producers from out of state.

Note that, due to the promulgation of the emergency regulations, the first two years of compliance with these regulations have already occurred. OSPR is not aware that compliance with this caused any effects on the ability of companies to compete with businesses from out of state.

The question of who bears the increased cost of production – and how much is passed on to consumers – is a function of the supply and demand curves, which vary at different places in the supply chain. Moreover, both supply and demand are more elastic over time, as producers and consumer have time to modify their practices according to new price signals. This analysis evaluates two scenarios: 1) increased costs fully passed on to consumers; and 2) increased costs by smaller producers not passed on to consumer.

First, we examine the scenario where all costs are passed on to consumers. ~~Because the demand for gasoline and other oil products is highly inelastic in the short run, it is likely that nearly all of this cost would be passed on to consumers.~~ Thus, the $4 million born by 45 companies in the first year, and $2 million annually after that, ~~would be~~**are** passed down to California's millions of households and business. Here we examine the likely increased cost of driving a car for a year.

The total high end estimated cost for all of the new regulations in the first year is $4,090,297 across all affected companies. This is ~~0.048~~**0.044**% (less than five-hundredths of one percent) of the total revenues of oil production. If applied to the cost of oil production, these costs would add $0.0241 (a little more than ~~two~~**2** cents) to the price of a barrel of oil, and this would be only in the first year (which has already occurred under the emergency regulations) (Table 3). In future years, the cost would be less than half of that.

Again, the benefit to the State by having facilities maintain contingency plans and participate in tabletop exercises and equipment deployment drills should result in less damage to the environment and reduced response costs overall.

Table 3: Total Estimated Cost of Proposed Regulations Across all Facilities in Year 1 (based on high-end estimates)

Regulation	Cost	% of value of Inland oil production in California	Potential addition to price of a barrel of oil
Contingency Plans (mostly upfront costs)	$2,661,973	~~0.031~~**0.028**%	$0.0157
Drills and Exercises (annual costs)	$573,214	~~0.007~~**0.006**%	$0.0034
Financial Responsibility (annual costs)	$855,110	~~0.010~~**0.009**%	$0.0050
TOTAL	**$4,090,297**	**~~0.048~~0.044%**	**$0.0241**

To apply this total (an increase of $0.0241/barrel) to the annual cost of driving a car, we assume a vehicle is driven 12,000 miles/year, gets 17.5 miles per gallon, and thus requires 686 gallons of gasoline/year. A price increase of $0.0241/barrel translates to

$0.00057/gallon (1 barrel = 42 gallons). Applied to the 686 gallons needed to drive for a year, this would add $0.39 (or 39 cents) to the annual gas budget for the vehicle.

Given the normal variation in gas prices at the pump, it is unlikely that consumers would notice this change, nor impact their economic decisions.

Next, we examine the scenario in which smaller producers are unable to pass on their costs to consumer and instead bear all the costs themselves. Because small producers sell to larger producers, pipelines, and refineries, they may have a limited ability to pass on the increased costs associated with regulatory requirements, at least in the short run.

For this evaluation, OSPR assumed that small producers are those inland facility plan holders not affiliated with companies that own pipelines or refineries. There are 20 of these. While we have no information on their costs of production, we can estimate their gross revenues by multiplying their annual production of crude oil by the price of crude oil. We then assumed that all of the costs of the regulations are born by each company and not passed on. We compared that cost to their estimated annual revenues to provide a measure of the economic burden of complying with the regulations.

Across the 20 inland producers, crude oil production ranged from 61 to 65,000 bbls/day. Assuming a value of $55/bbl, all but three of the plan holders likely have annual gross revenues greater than $10 million/year. All exceed $1 million/year. For costs, we used the highest estimate of annual costs for contingency planning ($1,667/year), insurance premiums ($8,900 to $50,000, depending on size of operation), participation in drills and exercises ($5,000/ year), and retaining an OSRO ($5,000/year). For all but the smallest plan holder, the maximum estimated cost of regulatory compliance was less than 1% of total revenues. For the smallest plan holder, the maximum cost of compliance was 1.7% of total revenues. For most, the costs were much smaller relative to revenues. For all but three plan holders, the costs were less than 0.5% of revenues.

We also compared this to the natural volatility in the market that oil producers experience. For all plan holders, the effect of a $1/bbl change in the price of crude oil (e.g. from $55/bbl to $54/bbl) would have a greater impact than the total maximum estimate of the costs of regulatory compliance. For all but six plan holders, the cost of regulatory compliance was equal to or smaller than the impact of a seven-cent drop in the price of a barrel of crude oil. This is well within the daily average variability in the price of crude oil and thus unlikely to affect business decisions. The costs for most plan holders are probably less than that described here, as this analysis used only the high-end cost estimates.

(b) Will there be any effects of the regulation on the creation or elimination of jobs within the State?

Because these regulations may result in additional business activity (e.g., the use of consultants and contractors), it is possible that support companies may hire additional staff to meet the demand. This effect, however, is likely to be very small, given the small number of companies affected.

(c) Will there be any effects of the regulation on the creation of new businesses or the elimination of existing businesses within the State?

See the response to the previous question in (b) regarding support contractors.

(d) Will there be any effects of the regulation on the expansion of businesses currently doing business within the State?

See the response to the previous question in (b) regarding support contractors. Because preparedness requirements for oil spills are now applicable to inland waters, there may be an expansion of cleanup contractors providing rated cleanup capability to inland facilities for inland areas of the state.

(e) Will there be any other benefits of the regulations?

The requirement for periodic equipment deployment drills and tabletop exercises help ensure an owner or operator is prepared to respond to an oil spill into state surface waters, which will minimize the environmental impact from spills.

In enacting this program, the Legislature found that each year billions of gallons of crude oil and petroleum products are transported by vessel, railroad, truck, or pipeline over, across, under, and through the waters of this state. Oil spill accidents can be a significant threat to the environment of sensitive areas. California's lakes, rivers, other inland waters are treasured environmental and economic resources that the state cannot afford to place at undue risk from an oil spill. The economic benefits from reduced oil spills and reduced volume spilled, as has already been experienced since the implementation of the emergency regulations, is described here.

The regulations regarding drills and exercises are part of a larger package of regulations that build upon OSPR's marine oil spill preparedness and response program to cover inland facilities that pose a threat to inland surface waters. Together, they are part of a four-pronged approach to improve preparedness and response capabilities across the inland oil production and transport industry. The following four components are new regulations for inland facilities with regard to:

1. Drills and exercises

2. Contingency plans
3. Financial responsibility
4. Rating of oil spill response organizations

While it is difficult to examine the economic benefits of any one component, we examined the overall benefit of the suite of the new regulations by focusing on the ultimate measure of program success: the number and volume of oil spills over time.

Cumulative Impact

To examine the benefits of these regulations, we considered three factors:

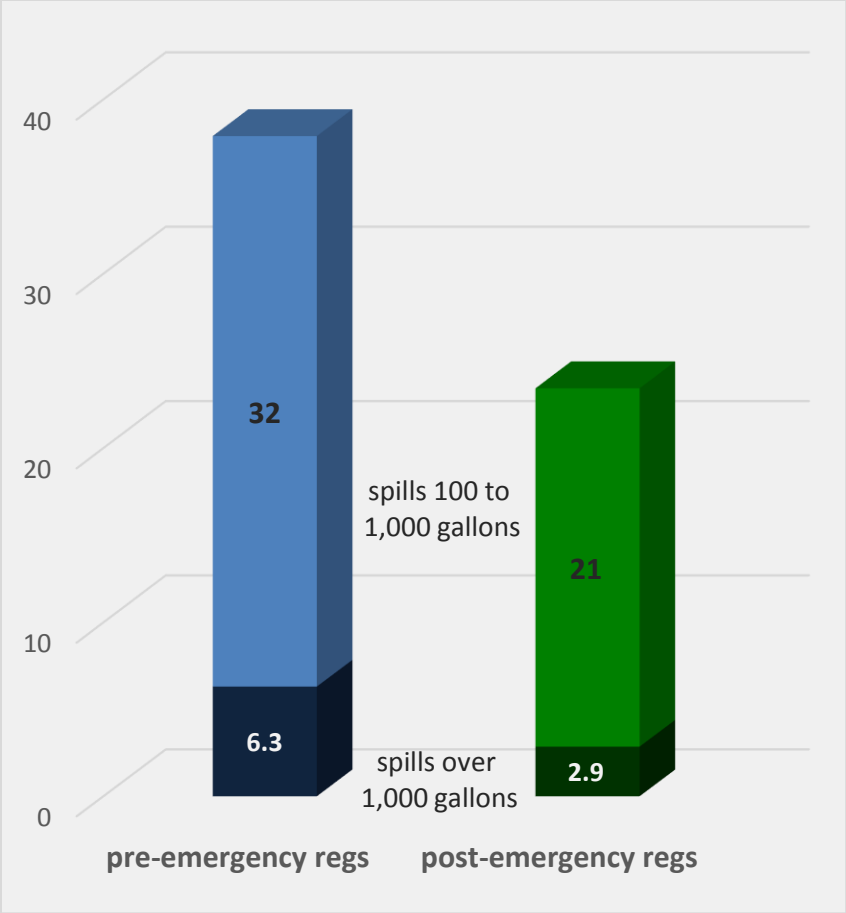
1. The reduction in small and medium-sized spills since the implementation of the emergency regulations.
2. The reduction in the risk of large spills.
3. The added risk of an oil spill due to an increase in the transport of crude by rail.

Reduction in Small and Medium-sized Spills

OSPR has a database of spills, based on reports from the Office of Emergency Services. Smaller spills happen on a regular basis, allowing us to compare spill data since the initiation of the emergency regulations in September 2015. Here, we examined data regarding inland oil spills to water, comparing 21 recent months (September 2015 thru April 2017) under the emergency regulations to the previous 38 months (July 2012 thru August 2015) before the expansion to a statewide program. We include all spills of 10 gallons or more. There are hundreds of spills under 10 gallons but, for most of these, the response costs were negligible.

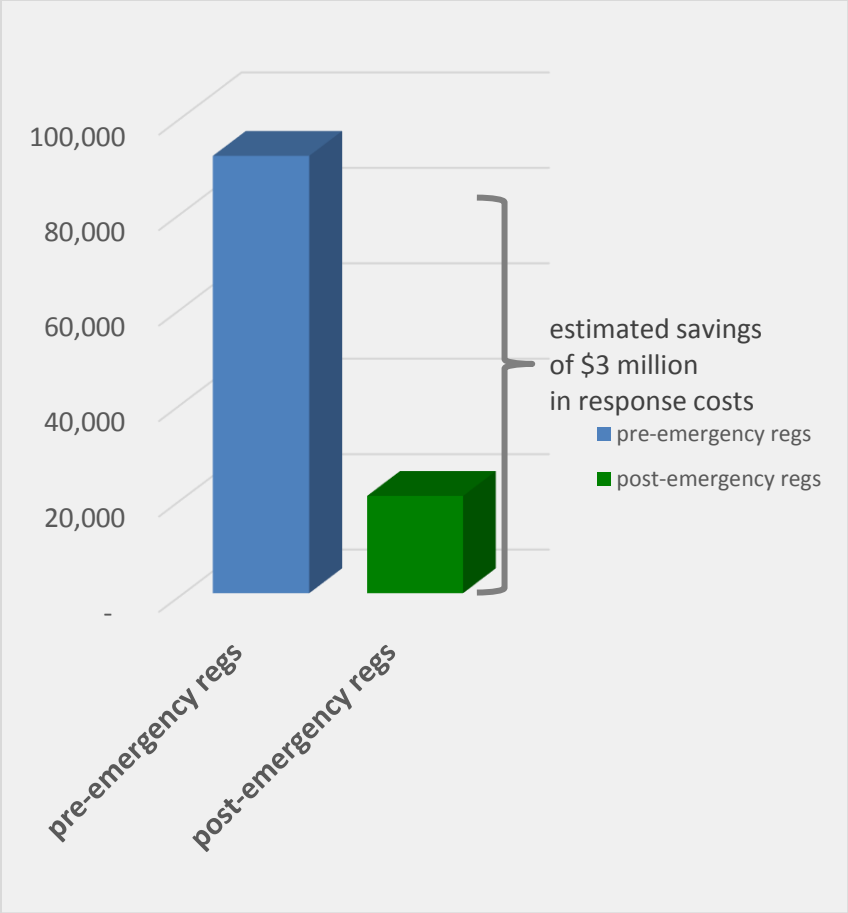
Normalizing to a 12-month period to use comparable annual figures, the total number of inland oil spills to water (of 10 gallons or more) has stayed about the same (123/year before the emergency regulations went into effect and 135/year after). However, the spills are now smaller than previously. The number of spills from 100 to 999 gallons fell a third (from 32 to 21/year), while the number of spills of 1,000 gallons or more dropped in half (from 6.3 to 2.9/year) and (Figure 2).

Figure 2: Number of Inland Oil Spills to Water



More significantly, the volume of oil spilled declined dramatically, from about 90,000 gallons/year before the establishment of the emergency regulations, to 20,000 gallons/year after (Figure 3). Based on an average response cost of $1,779/barrel, or about $42/gallon), this represents an annual savings of just over $3 million/year. This response cost, provided to OSPR by a group of inland oil facilities who conducted their own internal survey, is intended to include cleanup costs as well as third party claims and natural resource damages.

Figure 3: Gallons Spilled/Year (Inland Oil Spills to Water)



An important caveat to this analysis is that significant oil spills are rare events, and large oil spills are even rarer, thus requiring long time frames to ensure enough data to paint a realistic picture. Furthermore, one large spill within the time period under examination can strongly bias results. In this instance, there were no exceptionally costly spills during the months under examination. Removing the largest spills from the 2012-2017 data would not meaningfully change the results presented above.

Risk of a Large Spill

Large spills are rare, occurring once every few years. Yet, because of their potential harm, preparing for them is one of the primary goals of OSPR. It is possible that the new planning regulations and increased attention, in the long run, will prevent a large spill, not yet detected in the data above. To assess the potential benefit of this, we can examine the likely cost of such a spill, its annual probability, and the degree to which the new regulations will lower that probability. The result will be an expected benefit, measured in terms of reduced annual expected costs. The following equation describes this analysis:

*Benefits/yr = cost * probability of a large inland spill/yr * reduction in probability*

In recent decades, there have been two large inland oil spills to water in California, the 1991 ExxonMobil spill and the 1994 ARCO spill, both pipeline breaks affecting the Santa Clara River. The response costs (including third party claims and natural resource damages) for these events were $25 million and $51 million respectively. These spills rank among the most expensive inland spills in United States history. For the sake of this analysis, we assume the cost of a large inland spill would be $100 million and the probability has been once every 13 years (based on these two spills occurring in the past 26 years). This is an annual probability of 0.077.

The remaining question is how much the new regulations will reduce this probability. To answer that, we looked to OSPR's history with regard to its marine program. Before the beginning of OSPR's marine program in 1991, there were four large marine oil spills between 1986 and 1990 (four in five years). Since then, there have been 11 large spills (or 11 in 26 years). Thus, the annual probability of a large marine spill declined from 0.80 to 0.42. This reduction, by 47%, is similar to the reduction recently documented with regard to smaller inland spills. For the purposes of this exercise, we assume that these regulations will reduce the risk of a large inland spill by 47%. The expected annual benefit, with regard to reducing the probability of a large inland spill, are:

*Benefits/yr = cost * probability of a large inland spill/yr * reduction in probability*

*$3,624,260 = $100,000,000 * 0.077 * 0.47*

In summary, the new inland regulations should cut the probability of a large inland oil spill roughly in half. This will lower the risk of such an incident from once every 13 years to once every 26 years. The benefit of preventing such an event is $100 million. The annual expected benefit, taking into the account the reduced probability, is over $3.6 million.

Risk of a Crude by Rail Spill

Because the new inland regulations apply to railroads transporting oil, an additional benefit will be a reduction in the risk of spills by rail. This is not captured in the data analyzed above, as crude-by-rail has played a small part in the supply of California's oil historically. However, if market conditions change in the future, crude-by-rail could grow significantly. This section discusses that potential growth and the additional spill risk it brings, and thus the additional potential benefits of the proposed regulations in minimizing that risk.

Historically, crude-by-rail in California has been limited to a twice-a-week, 300-mile run from the San Ardo oil field to the Los Angeles area. There have been no significant spills associated with this. This train transports about 5 million barrels per year.

In recent years, crude-by-rail has been used to import oil into California from Canada, North Dakota, Wyoming, New Mexico, and several other production areas. This peaked in 2013 at just over 6 million barrels per year. There were plans to build crude-by-rail terminals to receive over 150 million barrels per year, but most of these were not built due to a combination of local opposition and market conditions. The only new rail terminals have been in the Bakersfield area. When the price of oil fell dramatically from around $100/bbl to $50/bbl in the second half of 2014, transporting crude-by-rail to California became less attractive. Since then, crude-by-rail imports into the state have stayed below 2 million barrels per year.

For this analysis, we assume that 50 million barrels of crude could be transported each year by rail into California in the future, assuming that economic conditions change. This figure represents the likely rail terminal capacity in the Bakersfield area in the future and would represent approximately 9% of California's oil supply.

Based on an analysis of crude-by-rail nationwide in 2013, approximately 131 barrels (or 5,502 gallons) were spilled per million barrels transported. Thus, for the 50 million barrels potentially transported to California, about 275,000 gallons would be spilled. Since about 20% of the route lies within the state, about 55,000 of those gallons would be spilled in California. Assuming the same rate of reduction in spills as applied above for large spills (47%), about 26,000 of those gallons would not be spilled as a result of OSPR's program. Using the $42/gallons cost estimate described above, this would imply a benefit of almost $1.1 million per year.

Summary of Benefits

The benefits of the regulations regarding contingency plans, drills and exercises, financial responsibility, and oil spill response organizations are considered jointly and summarized here:

- Expected annual benefit by reducing small and medium-sized spills: $3 million
- Expected annual benefit by reducing large spills: $3.6 million
- Expected annual benefit by reducing crude-by-rail spills: $1.1 million

Total expected benefit for all regulations: $7.7 million/year.

(f) Will there be any benefits to the health and welfare of California residents?

This rulemaking is implementing the drills and exercise requirements. The benefit is when there is a spill there should be people and equipment responding to the incident

that are trained and ready to perform, providing Californians with a faster initiation of cleanup activities. If there is a spill from a company that is not required to have drills and exercises, there may be initial delay getting response equipment and personnel to the incident.

(g) Will there be any benefits of the regulation to worker safety?

No, not directly. However, all responders need to comply with state and federal employee safety requirements. In addition, practicing for spill response is likely to result in smoother responses to actual spills, which would generally benefit worker safety.

(h) Will there be any benefits of the regulation to the State's environment?

The benefit is when there is a spill, there is pre-identified equipment and trained people to perform oil spill cleanup. This leads to faster initiation of cleanup activities and a reduction in confusion or misunderstandings about who will undertake cleanup activities. Additionally, having knowledge of environmentally sensitive areas identified during drills and exercises leads to implementing protection strategies more quickly during a spill.

VI. ***Studies, Reports, or Documents Relied Upon*** *[Gov. C. §11346.2(b)(3)]*

- California Department of Conservation Monthly Oil and Gas Production and Injection Report (October 2016) (the most recent available as of this writing): ftp://ftp.consrv.ca.gov/pub/oil/monthly_production_reports/2016/10_2016.pdf

- Etkin, D.S. 1999. *Estimating cleanup costs for oil spills.* 1999 International Oil Spill Conference. Paper #168.

- Helton, D. and T. Penn. 1999. *Putting response and natural resource damage costs in perspective.* 1999 International Oil Spill Conference. Paper #114.

- Mercer Management Consulting. 1993. *Analysis of Oil Spill Costs and Financial Responsibility Requirements*.

VII. ***Reasonable Alternatives to Regulatory Action*** *[Gov. C. §11346.2(b)(4)(A)(B)]*

The requirement to engage in oil spill drills and exercises is required by statute. Thus, there are no reasonable alternatives to regulatory action.

VIII. ***Specific Technology or Equipment Required by Regulatory Adoption*** *[Gov. C. §11346.2(b)(1)]*

None.

IX. Duplication or Conflict with Federal Regulations *[Gov. C. §11346.2(b)(6)]*

The regulations in this rulemaking are similar to, but do not conflict with, federal regulations. The National Preparedness for Response Exercise Program (PREP) was developed in 1990 to establish an exercise program for spill response preparedness pursuant to Section 1321(j)(6) and (7) of Title 33 of the United States Code. However, states are not preempted from building upon PREP, which OSPR has done since the mid-1990's. OSPR's requirements generally are more thorough than the federal requirements. OSPR works closely with its federal counterparts, such as the USCG, EPA, and the U.S. Bureau of Safety and Environmental Enforcement. OSPR, the USCG, and EPA conduct tabletop exercises and equipment deployment drills with plan holders on average several times a month.

X. Mitigation Measures Required by Regulatory Action

This proposed regulatory action will not have a negative impact on the environment; therefore, no mitigation measures are needed.

END