Humboldt Bay Area Harbor Safety Committee

California Senate Bill 414

Assessment of Emergency Towing Capabilities in the Humboldt Bay Area of Responsibility

11/3/2022

Final Report

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Part I. Introduction/Background

California Senate Bill 414 (SB 414) was signed into law by Governor Edmund G. Brown, Jr. and became effective January 1, 2016[1]. The bill requires the Administrator of the Office of Spill Prevention and Response (OSPR) to task the Humboldt Harbor Safety Committee (HUM HSC):

> *". . . to assess the presence and capability of tugs within their respective geographic area of responsibility to provide emergency towing of tank and non-tank vessels to arrest their drift or otherwise guide emergency transit."*

The assessment must take into consideration data from United States Coast Guard (USCG), relevant incident and accident data, simulation models/studies, and identification of transit areas where risks might be elevated. In addition, the assessment must consider the condition of tank and non-tank vessels calling on Humboldt Bay, including the USCG's Marine Inspection Program and Port State Control Program. See Appendix A for the complete text of SB 414.

On February 8th, 2018, OSPR Administrator Thomas M. Cullen, Jr. sent a letter to the HUM HSC Chair Suzie Howzer providing further guidance and support for the assessment. Specifically, the letter clarified the scope of the assessment to vessels over 300 Gross Registered Tonnage (GRT), required the assessment for Humboldt to be initiated by January 2020, and offered financial assistance if needed to complete the tasking. Upon completion, the assessment is to be reported in the Humboldt Harbor Safety Plan. See Appendix B for the letter from the OSPR Administrator.

At its July 18, 2019 meeting, the HUM HSC again reviewed the mandate of SB 414 and formalized a SB 414 Workgroup ("Workgroup"). See Appendix C for a roster of Workgroup participants. The Workgroup identified the core issues raised by SB 414 as follows:

- Identify the geographic area of responsibility (AOR) for the assessment,
- Determine what it means to "arrest the drift or otherwise guide emergency transit,"
- Identify the current inventory of available tug assets in the AOR,
- Assess the capabilities and limitations of available tug assets in the AOR,

[1] An act to amend Sections 8670.12, 8670.13, 8670.28, and 8670.67.5 of, and to add Sections 8670.11, 8670.13.3, and 8670.55.1 to, the Government Code, relating to oil spill response.

- Identify any transit areas of concern in the AOR,
- Gather relevant incident and accident data,
- Analyze information from the USCG's Port State Control Program and Marine Inspection Program.

The primary focus of this study is to assess response tug availability and capability in the Humboldt HSC AOR. At the outset, the Workgroup acknowledged that many varied factors affect this analysis. For example, severe weather in the offshore waters can increase overall risk by increasing a disabled vessel's drift rate, decreasing a response tug's speed (thus increasing its run-time), and hampering a response crew's ability to connect towing equipment to a disabled vessel. In addition, there are oftentimes opportunities to reduce risk by controlling or influencing the drift of a disabled vessel in a manner that affords additional time for response assets to arrive on scene. Ships' crews can use bow thrusters or partially functioning engines to reduce their vessel's drift rate or alter its drift direction. Should the vessel drift nearer to shore (and into more shallow waters), it may be possible to deploy the disabled ship's anchor(s) and arrest its drift before it goes aground.

The process of performing a successful rescue of a disabled vessel, whether the goal is to hook up and tow the disabled vessel, or to stabilize the vessel and arrest its drift, is dependent upon a multitude of factors including: the size, horsepower (bollard pull), range, propulsion and presence of standard towing equipment on the rescue tug; the rescue tugs' availability; the type, size, and condition of the disabled vessel to be rescued; the existing weather and sea conditions; and the urgency of the situation in terms of location and distance from shore.

When assessing hypothetical failure scenarios absolute conclusions are not likely. Nonetheless, a qualitative analysis of the likelihood and potential consequence related to a hypothetical occurrence can be achieved. Toward that end, clearly defining the scope for this study will focus our analysis and facilitate more reliable conclusions.

Part II. Scope of Study

The HUM HSC was tasked with assessing "the presence and capability of tugs within its geographic area of responsibility." In assessing the capability of tugs to respond to a disabled vessel in the offshore waters of the Humboldt Bay area, the Workgroup followed guidance from the OSPR Administrator and limited its study to vessels 300 gross tons and larger. This category generally includes vessels of the

following types: General Cargo/Multi-Purpose Ships, Bulk Carriers, Fuel Barges, Tug/Barge Units, Heavy Lift Ships, and Cruise Ships.

Geographic Area of Responsibility

Defining the geographic limits of the study area is a critical threshold issue. SB 414 requires the HUM HSC *". . . to assess the presence and capability of tugs within their respective geographic area of responsibility…".* For guidance, the Workgroup looked to the Humboldt Bay Area Harbor Safety Plan. In the Harbor Safety Plan, the HUM HSC geographic area of responsibility (AOR) is defined as follows:

> *The plan boundaries for the Humboldt Bay Area Harbor Safety Plan include all submerged lands between Shelter Cove, California and Trinidad Head, California, from a shoreline elevation of mean higher high water, seaward for three (3) miles including all submerged lands of Humboldt Bay (Inner Harbor).*

For these reasons, the SB 414 Workgroup concluded that the geographic AOR for this study should match the Humboldt Bay Area Harbor Safety Plan AOR. See graphic depiction below.

Arrest Drift or otherwise Guide Emergency Transit

For the purposes of this study, the Workgroup interprets the term *"arrest their drift or otherwise guide emergency transit"* as the ability to use tugs and/or ship's anchors to hold a disabled vessel in position, slow its drift rate to afford more time for additional resources to arrive on scene, alter its direction of drift to avoid grounding, or any combination of the above. This definition includes using response tugs to push/pull/nudge/guide a vessel to influence its direction of drift sufficiently so that it avoids drifting ashore, even though the disabled vessel may still be moving. This definition also includes using the disabled vessel's anchors, where possible, to arrest its drift and prevent grounding. The overarching objective of *"arresting their drift or otherwise guiding emergency transit"* is to prevent a vessel from grounding. This analysis does not apply beyond the point where sufficient towing assets have arrived on scene to stabilize the emergency. Additional resources may be needed to safely direct the vessel to a harbor of safe refuge or safe anchorage, which is beyond the scope of this study.

Part III. Assessment Considerations/Data Collected/Analysis

The Workgroup membership is composed of a cross-section of maritime professionals with expertise in a variety of disciplines including vessel operations, piloting, and offshore towing. The Workgroup collected and analyzed a large amount of data to prepare this report, including: a current inventory of available response tugs within the Humboldt AOR; past studies and simulation models; incident data over the past 9 years (January 2013 through December 2021); identification of transit areas of concern; and information relating to the USCG's Port State Control and Marine Inspection Programs.

Tug Inventory/Capability/Availability

The Workgroup provided a current inventory of active ship assist tugs in the Humboldt AOR. The inventory contains information on the name, size, horsepower/bollard pull, fuel capacity, onboard tow equipment, and the availability of each tug. Currently, three active ship assist tugs are in the Humboldt Bay AOR with varying horsepower/bollard pull capabilities (up to 59 tons). All three tugs are available on call 24-hours a day. It should be noted that such an inventory is a "snapshot in time," since home-port assignments for tugs can change. Nonetheless, this inventory does indicate a current summary of tug assets in the Humboldt Bay area. The Workgroup believes that it is representative of the minimum number of tugs that will continue to be available in the future.

Humboldt Bay AOR Current Tug Inventory

Tug	Size	Horsepower/Bollard Pull	Fuel Capacity	Tow Equipment	Availability
Koos King	65x23x8	2,200HP (59 tons)	10,800 gal	- Capstan Forward - Tow Winch with Penant Drum Aft - 1,200 ft. of 1 3/4" wire	24-hour on call
Captain Leroy	65x20x7	2,200HP (54 tons)	5,000 gal	- Tow winch Aft - 250 ft. 3" 8 strand blue steel	24-hour on call
Renegade	71x23x12	1,800HP (42 tons)	9,800 gal	- Soft line winch Fore and Aft	24-hour on call

Sause Bros. also has tugs that regularly transit the west coast. These are all oceangoing tugs that have significant power and range and can operate in almost any weather conditions. However, they are usually towing a petroleum barge and would need to hand off the barge to another vessel before they could assist a vessel in distress. A recent inventory of Sause Bros. tugs with bollard pulls and ranges for each is listed below.

Sause Bros. Current Tug Inventory

Tug	Bollard Pull	Range
Apache	65 tons	35 days
Black Hawk	44 tons	35 days
Geronimo	65 tons	35 days
Klihyam	60 tons	35 days
Mikiona	65 tons	35 days
Cochise	65 tons	35 days

The present use of tugs in Humboldt Bay is primarily for escort of vessels and petroleum barges, and to assist with vessel docking and undocking. The tug companies work in close liaison with the bar pilots,

and any vessel or barge movements assisted by the tug companies are closely coordinated with the bar pilots. Pilotage is generally required for vessels greater than 300 GRT. It is also recommended that any mariners unfamiliar with Humboldt Bay employ a local pilot. Pilots board vessels about 0.5 miles west of the Humboldt Bay Entrance Buoy. Tug assistance is advised by the Humboldt Bay Bar Pilots due to the lack of maneuvering room in Humboldt Bay, increased vessel sizes, and at times poor visibility and strong cross currents that can occur at the harbor entrance.

The Workgroup compared the current inventory to an older inventory contained in a 2002 Project Report[2] that compiled similar data. The comparison shows that the current tug inventory in the Humboldt Bay area is more robust today, as larger, and more capable tugs are currently available.

The Workgroup found the 2002 Project Report instructive in generally evaluating the effectiveness and capability of the current tug inventory. According to that in-depth report, tugs with 40 tons of bollard pull or more meet the criteria as a "rescue tug" for the Humboldt area. In 2002, there was a total of 2 ocean going tugs which operated in the Humboldt Bay area, with only one having a bollard pull of 40 tons or greater (Knutzen Koos King – 57 tons). Today, that number has increased with a total of 3 tugs, all of which have a bollard pull of 40 tons or greater.

Thus, there is currently a robust and effective inventory of adequately equipped tugs available for the "arrest or influence" mission associated with the tasking of SB 414. Further, the present-day tug inventory is larger, more modern, more powerful, and better equipped to assist any size of vessel in distress than at any time in the past.

Based on current and expected future tug inventories in the Humboldt Bay area, the HUM HSC believes that there is a high likelihood that tugs will be readily available and equipped to respond to a disabled vessel within the HUM AOR.

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[2] *West coast offshore vessel traffic risk management project* (Final Report, 2002), Pacific States/British Columbia Oil Spill Task Force and the U.S. Coast Guard, Pacific Area. Retrieved from, http://oilspilltaskforce.org/wp-content/uploads/2013/12/2002-Offshore-Vessels-Risk-Management-Project-Report.pdf.

Incident Data Collected

The Workgroup assessed relevant vessel incidents that occurred January 2013 through December 2021. Based on information reported to the U.S. Coast Guard over this 9-year period, there were no (0) incidents relevant to this study. For the purposes of this study, a "relevant incident" is defined as an incident related to propulsion, steering, electrical, or other similar casualty that did or could result in a drifting ship needing tug assistance. This definition strips out cases of small fishing and pleasure boats, search and rescue cases, medical evacuations, rules of the road, and the like.

Going back over 20 years, USCG review of casualty data found one instance of a major casualty occurring on a vessel of 300 GRT or greater that required tug assistance in Humboldt Bay. That was the bulk carrier KURE in November of 1997. After the vessel punctured a fuel oil tank while shifting positions at the pier, spilling heavy fuel oil into the bay, it grounded in the entrance channel on departure and required tugs to free it.

As described previously in this report, the deep draft ships that call on Humboldt Bay use assist tugs as part of their normal mooring, maneuvering, and shifting procedures when they are in port. In addition, Humboldt does not get a lot of deep draft traffic that would be relevant to this study. As of this writing, deep draft vessels over 300 GRT that enter Humboldt Bay annually are as follows: Bulk Carriers (chip ships) approximately 7 per year; Fuel Barges approximately 24 per year; Cruise Ships approximately 2 per year; ACOE vessels approximately 2 per year; and USCG buoy tenders approximately 2 per year. Moreover, the deep draft vessels relevant to this study do not generally use Humboldt Bay as an anchorage area while awaiting berth space like they do in some of the other ports. For these reasons, vessel casualties that necessitate a rescue tow are infrequent in the HUM AOR.

The Humboldt HSC concludes that the incidence of vessel casualties that necessitate a rescue within the HUM AOR is extremely low, and that should a failure occur within the HUM AOR response tugs would readily available and equipped to respond.

Transit Areas of Concern

The Workgroup identified the Humboldt Bay entrance as a transit area of concern. At times strong and unpredictable cross currents can occur at the Harbor Entrance. The currents are predicated on past weather conditions. According to information gathered during simulations that were conducted by the

Humboldt Bay Bar Pilots in 2008, southerly weather accompanied by a southwesterly to westerly swell creates a strong current during low water periods at the 110-degree turn from the lighted buoy #5 to light #11.

For approximately the first three miles of transit the tug assist/escort boats are not made fast to the vessel employing them. This is due to the open sea conditions that exist in this area. According to the Workgroup, it would be nearly impossible for a tug to approach a ship moving at full power and trying to negotiate the sometimes-dangerous swell and currents of the Humboldt Bay entrance if the larger vessel lost its power or steering. It would also be dangerous to slow the larger vessel to a speed at which the tug could come alongside because that would result in considerably less control of the larger vessel by the pilot. However, a ship negotiating the 110-degree turn at the entrance or moving at slower speeds inside the harbor benefit from the presence of an escort tug if a loss of engine or steering control occurred. The escort tug would be able to provide some steering and/or stopping ability for the stricken vessel.

The pilot may also send the escort tug ahead of the ship to make certain that the ship's path is clear. Tugs are also indispensable in thick fog for marking buoys and lights and checking tidal current conditions ahead of the ship while the pilot is navigating the narrow channels of Humboldt Bay. Tugboats engaged in escorting or assisting vessels in Humboldt Bay continue their service until dismissed by either the pilot or the master of the vessel employing them. However, the master of the tug engaged in escorting or assisting another vessel may temporarily halt or discontinue service if the crew or vessel is in immediate danger.

The HUM HSC finds that the Humboldt Bay entrance is a transit area of concern. While the likelihood of an occurrence in this area is extremely low, the HUM HSC has nevertheless identified this as a transit area of concern and recommendations listed in the current Harbor Safety Plan should continue to be followed.

Assessment of United States Coast Guard's Port State Control and Marine Inspection Programs

SB 414 requires the review of the USCG's Marine Inspection Program and Port State Control Program (PSC) regarding risks due to a vessel's hull or engineering material deficiencies, or inadequate crew training and professionalism. The Humboldt Bay Harbor Safety Committee is following the Los Angeles-Long Beach Harbor Safety Committee and the Harbor Safety Committee of the San Francisco Bay

Region's innovative and streamlined approach to assess the condition of the USCG's PSC program. The committees recognized a worldwide network of PSC regimes exist with the goal to eliminate substandard shipping. The USCG holds observer status within both the Memorandum of Understanding on Port State Control in the Asia-Pacific Region (Tokyo MoU) and Paris Memorandum of Understanding on Port State Control (Paris MoU). Similarly, the Tokyo MoU has granted observer status to the Paris MoU, and the Paris MOU has granted observer status to the Tokyo MoU. The Paris MoU, Tokyo MOU and the USCG each produced an annual PSC report, and these reports list the vessel Detention Rate due to unsatisfactory Safety Examination results. The USCG's annual reports also list the Detention Rate for California, known as District 11's Detention Rate.

The HSCs reviewed six years (2010 - 2015) of data published in annual reports from the Paris MoU's, Tokyo MoU and USCG. This assessment encompassed PSC data from forty-five countries on five continents, 651,134 PSC vessel boardings, 350,943 Safety Examinations and 12,991 Detentions.

Utilizing the Detention Rate derived from PSC data, the HSCs were able to quantify the quality of vessels calling on California ports by comparing the California Vessel Detention Rate weighted average against the combined PSC authorities' detention rate weighted average. Using the California Vessel Detention Rate in this way enables for the relative assessment as to the condition/quality of vessels calling on California ports.

The assessments results were definitive and conclusive. The California Vessel Detention Rate weighted average at 0.0064% is the lowest of all surveyed PSC organizations. It indicates vessels calling on California are 99.84% less likely to possess the characteristics that would warrant a PSC detention than other parts of the world.

PSC Authority	No. of Safety Examinations	No. of Detentions	Detention Rate %	Weighting % Based on Detentions*	Detention Rate Weighted Average** (Detention Rate % x Weight)
(A)	(B)	(C)	(D)	(E)	(F)
			(C) / (B)		(D) X (E)
Tokyo MoU	178,148	8,145	4.5720%	62.70%	2.8665%
Paris MoU	115,399	4,022	3.4853%	30.96%	1.0790%
USCG less D 11	50,619	749	1.4794%	5.77%	0.0854%
D11 (CVDR)	6,777	75	1.1067%	0.58%	0.0064%
Totals	350,943	12,991	-	100%	4.0374%
PSC Detention Rate Weighted Average (W.A)					4.0374%

CVDR W.A.	0.0064%
CVDR W.A. Below PSC Detention Rate W.A.	4.0309%
Percent CVDR W.A. is below PSC Detention Rate W.A.	-99.84%***

Notes:
* Calculation is Number of Detentions by a PSC divided by the sum of all PSC Detentions (12,991)
** Calculation is Detention Rate % multiplied by the Weighting %
*** Calculation is 4.0374% less 0.0064% divided by 4.0374%

U.S. Coast Guard's Marine Inspection Program (U.S. Flag Vessels) – Published each year in the Paris MoU and Tokyo MoU Annual Reports, is an updated document entitled, "White, Grey and Black (WGB) List." The WGB List represents the full spectrum, from quality flag states to flag states with a poor performance that are considered high risk. It is based on the total number of inspections and detentions and is the results from PSC inspections. The WGB List reflects the quality of a flag state's (marine) inspection program as well as the quality of vessels and vessel operators.

The White List contains a list of flag states found to be of higher quality and lower risk. Conversely, the Black List contains a list of flag states found to be substandard and of higher risk.[3] The Gray List is a list of flag states that may be simply described as average, average being considered less than ideal.

Independent third party audits, more commonly referred to as PSC inspections, over the last six consecutive years have reflected favorably upon the flag state of United States as well as the condition of the USCG's Marine Inspection Program. During the sample period (2010-2015), the flag state of United States attained White List, low risk status 83% of the time. Moreover, over the past four consecutive years (2012-2015), the flag state United States attained White List, low risk status 100% of the time.

Accordingly, the Humboldt HSC finds the condition of United States vessels 300 GRT and greater and the condition of the USCG's Marine Inspection Program to be adequate.

Part IV. Conclusions

There are many factors that could cause a vessel to lose propulsion and/or maneuverability. However, based on the data assembled in response to Senate Bill 414, Humboldt is prepared for most foreseeable

[3] "White, Grey and Black List." *Paris MoU*. Paris MoU, 2016. Web. 27 December 2016.

emergency scenarios that might require a tug to assist a 300 GRT vessel to arrest its drift or otherwise guide its emergency transit in the AOR. Given the presence and capability of ocean towing tugs in the Humboldt Bay area, it is likely that an assist tug will arrive on scene before a disabled vessel traveling in the HUM AOR could drift into danger and become grounded. As noted in this report, there have been very few vessel failures that have necessitated an emergency tow or assist in the AOR. The Humboldt Harbor Entrance was the only transit areas of concern identified in the HUM AOR. Lastly, the quality of the vessels and crews calling Humboldt Bay and other California ports is generally very high as indicated by reliable data from the annual reports of the USCG's Port State Control Program, the Tokyo MoU, and the Paris MoU.

Conclusion: The Humboldt Bay Area Harbor Safety Committee finds that there is a very high degree of likelihood that the resources presently in place in the Humboldt Area of Responsibility are, and will continue to be, sufficient to arrest the drift of a disabled vessel or otherwise influence its drift to prevent it from grounding.

CHAPTER 609

An act to amend Sections 8670.12, 8670.13, 8670.28, and 8670.67.5 of, and to add Sections 8670.11, 8670.13.3, and 8670.55.1 to, the Government Code, relating to oil spill response.

[Approved by Governor October 08, 2015.
Filed with Secretary of State October 08, 2015.]

LEGISLATIVE COUNSEL'S DIGEST

SB 414, Jackson. Oil spill response.

(1) The Lempert-Keene-Seastrand Oil Spill Prevention and Response Act generally requires the administrator for oil spill response, acting at the direction of the Governor, to implement activities relating to oil spill response, including emergency drills and preparedness, and oil spill containment and cleanup. The act authorizes the administrator to use volunteer workers in response, containment, restoration, wildlife rehabilitation, and cleanup efforts for oil spills in waters of the state. Existing law requires the administrator to evaluate the feasibility of using commercial fishermen and other mariners for oil spill containment and cleanup.

This bill would require the administrator, in cooperation with the United States Coast Guard, to establish a schedule of drills and exercises that are required under the federal Salvage and Marine Firefighting regulations. The bill would require the administrator, on or before January 1, 2017, to submit to the Legislature a report assessing the best achievable technology of equipment for oil spill prevention, preparedness, and response and to update regulations governing the adequacy of oil spill contingency plans before July 1, 2018. The bill would require the administrator to direct the Harbor Safety Committees for various regions to assess, among other things, the presence and capability of tugs within their respective regions of responsibility to provide emergency towing of tank and nontank vessels to arrest their drift or guide emergency transit.

(2) The act requires the administrator to study the use and effects of methods used to respond to oil spills and to periodically update the study to ensure the best achievable protection from the use of those methods.

This bill would require the administrator, in conducting the study and updates, to consult current peer-reviewed published scientific literature. The bill would require the administrator, by May 1, 2016, to request that the federal California Dispersant Plan be updated, as provided, and to provide support and assistance in that regard.

(3) The act requires the administrator to license oil spill cleanup agents for use in response to oil spills.

This bill would require the administrator, if dispersants are used in response to an oil spill, to submit to the Legislature a written notification of, and a written justification for, the use of dispersants and a report on the effectiveness of the dispersants used, as provided.

(4) Existing law establishes the Oil Spill Technical Advisory Committee and requires the committee to provide recommendations to, among other entities, the administrator on the implementation of the act.

This bill would require the committee to convene a taskforce to evaluate the feasibility of using vessels of opportunity for oil spill response. The bill would require the taskforce to provide recommendations to the administrator and the Legislature on whether vessels of opportunity should be included in oil spill response planning.

(5) The act makes a person who causes or permits a spill or inland spill strictly liable for specified penalties for the spill on a per-gallon-released basis. The act provides that the amount of penalty is reduced by the amount of released oil that is recovered and properly disposed of.

This bill would eliminate that reduction in the penalty by the amount of oil recovered and properly disposed of.

DIGEST KEY

Vote: majority Appropriation: no Fiscal Committee: yes Local Program: no

BILL TEXT

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 8670.11 is added to the Government Code, to read:

8670.11. In addition to Section 8670.10, the administrator, in cooperation with the United States Coast Guard, shall establish a schedule of drills and exercises required pursuant to Section 155.4052 of Title 33 of the Code of Federal Regulations. The administrator shall make publicly available the established schedule.

SEC. 2. Section 8670.12 of the Government Code is amended to read:

8670.12. (a) The administrator shall conduct studies and evaluations necessary for improving oil spill response, containment, and cleanup and oil spill wildlife rehabilitation in waters of the state and oil transportation systems. The administrator may expend moneys from the Oil Spill Prevention and Administration Fund created pursuant to Section 8670.38, enter into consultation agreements, and acquire necessary equipment and services for the purpose of carrying out these studies and evaluations.

(b) The administrator shall, consulting current peer-reviewed published scientific literature, study the use and effects of dispersants, incineration, bioremediation, and any other methods used to respond to a spill and, by May 1, 2016, request that the federal California Dispersant Plan be updated pursuant to subdivision (d). The study shall periodically be updated by the administrator, consulting current peer-reviewed published scientific literature, to ensure the best achievable protection from the use of those methods. Based upon substantial evidence in the record, the administrator may determine in individual cases that best achievable protection is provided by establishing requirements that provide the greatest degree of protection achievable without imposing costs that significantly outweigh the incremental protection that would otherwise be provided. The studies shall do all of the following:

(1) Evaluate the effectiveness of dispersants and other chemical, bioremediation, and biological agents in oil spill response under varying environmental conditions.

(2) Evaluate potential adverse impacts on the environment and public health including, but not limited to, adverse toxic impacts on water quality, fisheries, and wildlife with consideration to bioaccumulation and synergistic impacts, and the potential for human exposure, including skin contact and consumption of contaminated seafood.

(3) Recommend appropriate uses and limitations on the use of dispersants and other chemical, bioremediation, and biological agents to ensure they are used only in situations where the administrator determines they are effective and safe.

(c) The studies shall be performed with consideration of current peer-reviewed published scientific literature and any studies performed by federal, state, and international entities. The administrator may enter into contracts for the studies.

(d) The administrator shall support the federal Regional Response Team, as described in Section 300.115 of Title 40 of the Code of Federal Regulations, in the development, and shall request regular updates, of plans and procedures for use of dispersants and other chemical agents in California. The administrator's assistance may include, but is not limited to, providing the federal Regional Response Team with current peer-reviewed published scientific literature, and risk and consequence analysis.

SEC. 3. Section 8670.13 of the Government Code is amended to read:

8670.13. (a) The administrator shall periodically evaluate the feasibility of requiring new technologies to aid prevention, response, containment, cleanup, and wildlife rehabilitation.

(b) (1) On or before January 1, 2017, the administrator shall submit a report to the Legislature, pursuant to Section 9795, assessing the best achievable technology of equipment for oil spill prevention, preparedness, and response.

(2) The report shall evaluate studies of estimated recovery system potential as a methodology for rating equipment in comparison to effective daily recovery capacity.

(3) Pursuant to Section 10231.5, this subdivision is inoperative on July 1, 2020.

(c) (1) Including, but not limited to, the report prepared pursuant to subdivision (b), the administrator shall update regulations governing the adequacy of oil spill contingency plans for best achievable technologies for oil spill prevention and response no later than July 1, 2018.

(2) The updated regulations shall enhance the capabilities for prevention, response, containment, cleanup, and wildlife rehabilitation.

(d) (1) The administrator shall direct the Harbor Safety Committees, established pursuant to Section 8670.23, to assess the presence and capability of tugs within their respective geographic areas of responsibility to provide emergency towing of tank vessels and nontank vessels to arrest their drift or otherwise guide emergency transit.

(2) The assessments for harbors in the San Francisco Bay area and in Los Angeles-Long Beach area shall be initiated by May 1, 2016. The assessments for the other harbors shall be initiated by January 1, 2020.

(3) The assessment shall consider, but not be limited to, data from available United States Coast Guard Vessel Traffic Systems, relevant incident and accident data, any relevant simulation models, and identification of any transit areas where risks are higher.

(4) The assessment shall consider the condition of tank and nontank vessels calling on harbors, including

the United States Coast Guard's marine inspection program and port state control program regarding risks due to a vessel's hull or engineering material deficiencies, or inadequate crew training and professionalism.

SEC. 4. Section 8670.13.3 is added to the Government Code, to read:

8670.13.3. If dispersants are used in response to an oil spill in state waters, the administrator shall provide written notification of their use to the Legislature within three days of the use. The administrator shall provide the Legislature with written justification of their use, including copies of key supporting documentation used by the federal on-scene coordinator and the federal Regional Response Team as soon as those material are released. Within two months of the use of dispersants in state waters, the administrator shall also provide a report to the Legislature on the effectiveness of the dispersants used, including, but not limited to, results of any available monitoring data to determine whether the dispersant use resulted in overall environmental benefit or harm. The written notification, justification, and report shall be submitted pursuant to Section 9795.

SEC. 5. Section 8670.28 of the Government Code is amended to read:

8670.28. (a) The administrator, taking into consideration the facility or vessel contingency plan requirements of the State Lands Commission, the Office of the State Fire Marshal, the California Coastal Commission, and other state and federal agencies, shall adopt and implement regulations governing the adequacy of oil spill contingency plans to be prepared and implemented under this article. All regulations shall be developed in consultation with the Oil Spill Technical Advisory Committee, and shall be consistent with the California oil spill contingency plan and not in conflict with the National Contingency Plan. The regulations shall provide for the best achievable protection of waters and natural resources of the state. The regulations shall permit the development, application, and use of an oil spill contingency plan for similar vessels, pipelines, terminals, and facilities within a single company or organization, and across companies and organizations. The regulations shall, at a minimum, ensure all of the following:

(1) All areas of state waters are at all times protected by prevention, response, containment, and cleanup equipment and operations.

(2) Standards set for response, containment, and cleanup equipment and operations are maintained and regularly improved to protect the resources of the state.

(3) All appropriate personnel employed by operators required to have a contingency plan receive training in oil spill response and cleanup equipment usage and operations.

(4) Each oil spill contingency plan provides for appropriate financial or contractual arrangements for all necessary equipment and services for the response, containment, and cleanup of a reasonable worst case oil spill scenario for each area the plan addresses.

(5) Each oil spill contingency plan demonstrates that all protection measures are being taken to reduce the possibility of an oil spill occurring as a result of the operation of the facility or vessel. The protection measures shall include, but not be limited to, response to disabled vessels and an identification of those measures taken to comply with requirements of Division 7.8 (commencing with Section 8750) of the Public Resources Code.

(6) Each oil spill contingency plan identifies the types of equipment that can be used, the location of the equipment, and the time taken to deliver the equipment.

(7) Each facility, as determined by the administrator, conducts a hazard and operability study to identify the hazards associated with the operation of the facility, including the use of the facility by vessels, due to operating error, equipment failure, and external events. For the hazards identified in the hazard and operability studies, the facility shall conduct an offsite consequence analysis that, for the most likely hazards, assumes pessimistic water and air dispersion and other adverse environmental conditions.

(8) Each oil spill contingency plan contains a list of contacts to call in the event of a drill, threatened discharge of oil, or discharge of oil.

(9) Each oil spill contingency plan identifies the measures to be taken to protect the recreational and environmentally sensitive areas that would be threatened by a reasonable worst case oil spill scenario.

(10) Standards for determining a reasonable worst case oil spill. However, for a nontank vessel, the reasonable worst case is a spill of the total volume of the largest fuel tank on the nontank vessel.

(11) Each oil spill contingency plan specifies an agent for service of process. The agent shall be located in this state.

(b) The regulations and guidelines adopted pursuant to this section shall also include provisions to provide public review and comment on submitted oil spill contingency plans.

(c) The regulations adopted pursuant to this section shall specifically address the types of equipment that will be necessary, the maximum time that will be allowed for deployment, the maximum distance to cooperating response entities, the amounts of dispersant, and the maximum time required for application, should the use of dispersants be approved. Upon a determination by the administrator that booming is appropriate at the site and necessary to provide best achievable protection, the regulations shall require that vessels engaged in lightering operations be boomed prior to the commencement of operations.

(d) The administrator shall adopt regulations and guidelines for oil spill contingency plans with regard to mobile transfer units, small marine fueling facilities, and vessels carrying oil as secondary cargo that acknowledge the reduced risk of damage from oil spills from those units, facilities, and vessels while maintaining the best achievable protection for the public health and safety and the environment.

SEC. 6. Section 8670.55.1 is added to the Government Code, to read:

8670.55.1. (a) The committee shall convene a taskforce, including appropriate state and federal governmental representatives, nongovernmental organizations, oil spill response organizations, and commercial fishing and other potential vessels of opportunity, to evaluate and make recommendations regarding the feasibility of using vessels of opportunity for oil spill response in marine waters. The evaluation shall examine the following:

(1) Appropriate functions of vessels of opportunity during an oil spill.

(2) Appropriate management of a vessel's of opportunity spill response program.

(3) Vessels of opportunity equipment, training, and technology needs.

(4) Liability and insurance.

(5) Compensation.

(b) As part of the evaluation, the taskforce shall hold two public meetings, one in southern California and one in northern California, prior to making final recommendations.

(c) (1) On or before January 1, 2017, the committee shall provide to the administrator and to the Legislature final recommendations on whether vessels of opportunity should be included in oil spill response planning.

(2) The recommendations provided to the Legislature shall be provided pursuant to Section 9795.

(d) If appropriate, the administrator, by January 1, 2018, shall update regulations to provide for inclusion of vessels of opportunity in the oil spill prevention, response, and preparedness program.

SEC. 7. Section 8670.67.5 of the Government Code is amended to read:

8670.67.5. (a) Regardless of intent or negligence, any person who causes or permits a spill shall be strictly liable civilly in accordance with subdivision (b) or (c).

(b) A penalty may be administratively imposed by the administrator in accordance with Section 8670.68 in an amount not to exceed twenty dollars ($20) per gallon for a spill.

(c) Whenever the release of oil resulted from gross negligence or reckless conduct, the administrator shall, in accordance with Section 8670.68, impose a penalty in an amount not to exceed sixty dollars ($60) per gallon for a spill.

Appendix B – OSPR Administrator Letter to Humboldt Harbor Safety Committee

State of California -The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Office of Spill Prevention and Response
1700 K Street, Suite 250
Sacramento, California 95811
Telephone: (916) 445-9338
www.wildlife.ca.gov/ospr

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

February 8, 2018

Ms. Suzie Howser
Chair
Humboldt Harbor Safety Committee
601 Startare Drive
Eureka, California 95501

Dear Ms Howser:

Senate Bill 414 signed into law by Governor Edmund G. Brown, Jr., became effective January 1, 2016. This bill requires me to exercise my authority pursuant to Government Code 8670.23.1(g), and task your Harbor Safety Committee with the following:

- Assess the presence and capability of tugs within your respective geographic areas of responsibility to provide emergency towing of vessels over 300 GRT to arrest their drift or otherwise guide emergency transit in the event of a loss of propulsion or steerage.
- The assessment for the Humboldt Bay area shall be initiated by January 2020.
- The assessment shall consider, but not be limited to, data from available United States Coast Guard, relevant incident and accident data, any relevant simulation models, and identification of any transit areas where risks are higher.
- The assessment shall consider the condition of tank and non-tank vessels calling on the harbor, including the United States Coast Guard's marine inspection program and port state control program regarding risks due to a vessel's hull or engineering material deficiencies, or inadequate crew training and professionalism.

My project officer for this assessment is Oil Spill Prevention Specialist Mr. David Mighetto who may be contacted by e-mailed at David.mighetto@wildlife.ca.gov or by phone at 1-916-445-3157. Questions regarding the appropriateness of any assessment model or report format may be directed to Mr. David Mighetto or to my Prevention Branch Chief, Mr. Ted Mar, reachable by email at Ted.Mar@wildlife.ca.gov or by phone at 1-916-323-6281.

The assessment should be completed on the committee's established schedule and reported in your Harbor Safety Plan in June of the finished year. If additional funding is required to complete this tasking, the amount and justification should be submitted to the project officer.

As always, I appreciate the committee's efforts. I look forward to results of your findings.

Sincerely,

Thomas M. Cullen, Jr.
Administrator
Office of Spill Prevention and Response

Conserving California's Wildlife Since 1870

Appendix C – SB 414 Workgroup Participants

Leroy Zerlang – Zerlang & Zerlang
Cody Zerlang – Zerlang & Zerlang
Ross McDonald – Sause Bros.
John Powell - Pilots
Tim Petrusha – Pilots
Adam Shiltz – United States Coast Guard
Reuben Macaspac – Office of Spill Prevention and Response
Jonathan Bishop – CA Coastal Commission
Larry Oetker – Humboldt Bay Harbor District

Appendix D – United States Coast Guard's Port State Control and Marine Inspection Programs' Data and Detailed Report

Overview

California Senate Bill 414 (SB 414) requires Harbor Safety Committees to assess the condition of vessels over 300 GRT calling on California (CA) ports. Additionally, assess the condition of the United States Coast Guard's (USCG) marine inspection program and port state control (PSC) program regarding risks due to hull or engineering material deficiencies, or inadequate crew training and professionalism.

Background

A Harbor Safety Committee is comprised of a diverse group of port stakeholders including both commercial and recreational waterway users, regulatory authorities, organized labor, and non-governmental environmental organizations. Though the Harbor Safety Committee is arguably the most comprehensive organization on a wide range of maritime related topics, many committee members believe assessing the condition of vessel's calling on California ports, and to assess the condition of the USCG's marine inspection and port state control programs, is beyond the level of the committee's expertise.

Few organizations possess the resources, and maritime expertise to properly conduct an assessment of federal programs as required by SB 414. In matters relating to the effectiveness of federal programs, the United States Governmental Accountability Office is often the organization called upon to objectively assess a federal agency. However, the Los Angeles-Long Beach and the Harbor Safety Committee of the San Francisco Bay Region (HSCs) employed an innovative and streamlined approach to systematically meet the SB 414 mandates by comparing PSC regimes' data.

Assessment – U.S.C.G.'s Port State Control Program and Foreign Flag Vessels

Currently, a worldwide network of regional co-operation PSC ministries exists with the objective to eliminate substandard shipping. There are a total of nine regional PSC agreements / Memorandum of Understandings (MoUs) to include: Abuja MoU, Black Sea MoU, Caribbean MoU, Indian Ocean MoU, Mediterranean MoU, Paris MoU, Riyadh MoU, Tokyo MoU, and Vina del Mar Agreement.[4]

The Memorandum of Understanding on Port State Control in the Asia-Pacific Region (Tokyo MoU) and Paris Memorandum of Understanding on Port State Control (Paris MoU) established and maintain effective and close co-operation both at the administrative and technical levels. Representatives of the two Secretariats attend the Port State Control Committee meetings of each MoU on a regular basis and the USCG holds observer status within both of these two organizations.[5]

For this assessment, the Tokyo MoU, Paris MoU and United States Coast Guard, will be referred to as PSC regimes and only data provided from these three organizations will be referenced. The close

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4 Tokyo MoU, "Annual Report on Port State Control in the Asia–Pacific Region 2015", 2016, p 9.

5 Ibid.

cooperative relationship between the USCG, the Tokyo MoU and the Paris MoU facilitates uniform and trackable data values.

PSC regimes including the USCG have established a vessel targeting matrix to rationally and systematically determine the probable risk posed by foreign flag ships. In developing their risk assessment methodology, the PSC regimes recognize there are key, trackable and quantifiable data points that are often a reflection of a vessel's operational condition and compliance with international safety and environmental protection standards.[6]

Three primary factors or data points a PSC's targeting matrix utilize include: Ship Management Company, Recognized Organizations (Classification Societies), and the Flag State of a ship. Secondary trackable and quantifiable data points include ship type, ship age as well as a PSC's previous experience/issues with a particular ship.[7] [8]

If a PSC's targeting matrix identifies a ship of potential higher risk, and a subsequent Safety Examination determined the ship is substandard, a detention of the ship may be ordered by the PSC. "Ships are detained when the condition of the ship or its crew does not correspond substantially with the applicable conventions. Such strong action is to ensure that the ship cannot sail until it can proceed to sea without presenting a danger to the ship or persons on board, or without presenting an unreasonable threat of harm to the marine environment."[9]

Amongst the list of PSC detainable deficiencies are hull and engineering material deficiencies, inadequate crew training, and professionalism. Vessel detentions thus provide for a key and universal trackable data point to meet the requirements of SB 414.

Methodology

The HSCs sought to determine the quality of vessels calling on California ports by identifying the rate that vessels were being detained by the USCG. Additionally, determine if the detention rate in California was higher or lower than the rate of all vessels being detained in other parts of the United States/word.

The HSCs reviewed six years of data published in the PSC regimes' annual reports from 2010 to 2015. This assessment will show the California Vessel Detention Rate (CVDR) as compared with the combined six year average Detention Rate as detailed the annual reports produced by each PSC authority to include:

- PSC data from forty-five countries on five continents

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6 "PSC Safety Targeting Matrix – Safety Policy." *United States Coast Guard* (*USCG).* USCG, 12 January 2016. Wed. 6 July 2016.

7 Ibid.

8 "Ship Risk Calculator – Ship Risk Profile." *Paris MoU*. Paris MoU, 2016. Web. 6 July 2016.

9 Tokyo MoU, "Annual Report on Port State Control in the Asia–Pacific Region 2015", 2016, p 11.

- 651,134 PSC vessel boardings
- 350,943 Safety Examinations
- 12,991 Detentions

The PSC Average Detention Rate is an average for all three surveyed PSC regimes. It is based upon total number of Safety Examinations and Detentions from each PSC authority, over a six year period.

If the CVDR is above the PSC Average Detention Rate, the CVDR is considered undesirable. A CVDR percent above (or leads) PSCs Detention Rate suggests the qualities of vessels inspected in California on average are substandard compared to vessels inspected in other parts of the United States/world and thus require more vessels to be detained.

Conversely, if the CVDR is below the PSC Average Detention Rate, the CVDR is considered desirable. A CVDR percent below PSCs Detention Rate suggests the quality of vessels inspected in California on average are of a higher standard than vessels inspected in other parts of the United States/world and thus require fewer vessels to be detained.

Findings

A review of the USCG's electronic notice of arrival data for the calendar year 2015 revealed that 1,888 individual foreign vessels intended to call on California ports in 2015.[10] Referencing the USCG's 2015 PSC Annual Report, the U.S. Coast Guard's District 11 conducted 1,083 Safety Examination in California. Accordingly, the District 11's vessel targeting matrix led to a PSC Safety Examination rate of 57.36% of all foreign flag vessels arriving in California.

The below table references Attachment 1 and shows six years of cumulative safety examination and detention data per PSC authority. The Detention Rate can be derived by dividing Detentions by Safety Examinations. "Detention rates are expressed as a percentage of the number of Safety Examinations, rather than the number of individual ships inspected to take account for the fact that some ships may be inspected more than once in a calendar year."[11]

[10] All ships arriving from a foreign port are required to give ninety-six (96) hours advanced notice of their arrival to the USCG.

[11] Paris MoU, "Paris MoU on Port State Control, Annual Report 2015", 2016, p 16.

Appendix D – United States Coast Guard's Port State Control and Marine Inspection Programs' Data and Detailed Report

Table 1: Six Year Cumulative Inspection and Detention Data per PSC Authority

PSC Authority	Vessel Boardings	Safety Examinations	Detentions	PSC Average Detention Rate
Tokyo MoU	97,637	178,148	8,145	4.5720%
Paris MoU	89,407	115,399	4,022	3.4853%
USCG less District 11	417,038	50,619	749	1.4794%
USCG District 11	47,052	6,777	75	1.1067%*

Note: * 1.1067% represents the California Vessel Detention Rate (CVDR)

Table 1 reveals that the California Vessel Detention Rate or CVDR is 1.1067%. The CVDR is equal to the USCG District 11 Detention Rate due to fact that all vessel Safety Examinations were conducted in or adjacent to California waters.

Additionally, Table 1 reveals that the CVDR is below the Detention Rate of the other PSCs. *A CVDR below the PSC Average Detention Rate is a desirable situation. It indicates the quality of vessels inspected in California on average are of a higher standard than vessels inspected in other parts of the United States/world.*

Appendix D – United States Coast Guard's Port State Control and Marine Inspection Programs' Data and Detailed Report

Table 2 compares the California Vessel Detention Rate weighted average against both the domestic and international PSC regimes' weighted average detention rates. Using the California Vessel Detention Rate in this way allows for comparing PSC regimes detention rate both domestically and internationally and enables for the relative assessment as to the condition/quality of vessels calling on California ports.

Table 2: Six Years Weighted Average Detention Rate Computation

PSC Authority	No. of Safety Examinations	No. of Detentions	Detention Rate %	Weighting % Based on Detentions*	Detention Rate Weighted Average** (Detention Rate % x Weight)
(A)	(B)	(C)	(D)	(E)	(F)
			(C) / (B)		(D) X (E)
Tokyo MoU	178,148	8,145	4.5720%	62.70%	2.8665%
Paris MoU	115,399	4,022	3.4853%	30.96%	1.0790%
USCG less D 11	50,619	749	1.4794%	5.77%	0.0854%
D11 (CVDR)	6,777	75	1.1067%	0.58%	0.0064%
Totals	350,943	12,991	-	100%	4.0374%
PSC Detention Rate Weighted Average (W.A)					4.0374%
CVDR W.A.					0.0064%
CVDR W.A. Below PSC Detention Rate W.A.					4.0309%
Percent CVDR W.A. is below PSC Detention Rate W.A.					-99.84%***

Notes:

* Calculation is Number of Detentions by a PSC divided by the sum of all PSC Detentions (12,991)

** Calculation is Detention Rate % multiplied by the Weighting %

*** Calculation is 4.0374% less 0.0064% divided by 4.0374%

Assessment - Marine Inspection Program and U.S. Flag Vessels

Much like the USCG's PSC program has been established to inspect and enforce safety and environmental standards on foreign ships calling on ports in the United States; the USCG's Marine Inspection Program (MIP) inspects and enforces safety and environmental standards on United States vessels. Though the standards of the PSC program and the MIP may vary in scope, each program functions to meet the same overarching need. That is, to determine that both foreign and domestic vessels comply with the all applicable laws, rules, and regulations relating to safe construction,

equipment, manning, and operation and that they are in a seaworthy condition for the services in which they are operate (33 CFR § 1.01-20).

Methodology

Essentially, Port State Control authorities that makeup the Paris and Tokyo MoUs act as third party auditors. A PSC inspection (or audit) is an attempt to verify that a vessel, its operator and flag state (the country in which a vessel is registered) meet applicable conventions, safety and environmental standards; thus provides for an independent, unbiased and creditable means to access United States vessels and speaks to the quality and effectiveness of the USCG's MIP.

Published each year in the Paris MoU and Tokyo MoU Annual Reports, is an updated document entitled, "White, Grey and Black (WGB) List". The WGB List represents the full spectrum, from quality flag states to flag states with a poor performance that are considered high risk. It is based on the total number of inspections and detentions and is the results from PSC inspections.[12] The WGB List reflects the quality of a flag state's (marine) inspection programs as well as the quality of vessels, and vessel operators.

The White List contains a list of flag states found to be of higher quality and lower risk. Conversely, the Black List contains a list of flag states found to be substandard. Black List flag states are deemed to be of high risk.[13] The Gray List is a list of flag states that may be simply described as average, average being considered less than ideal.

From 2010 to 2015 the flag state United States has appeared on the Tokyo MoU's White List for the past six consecutive years and on Paris MoU for the past four consecutive years. Note, in 2010 and 2011 the flag state United States appeared on Paris MoU's Gray List.

Expressed differently, from to 2010 to 2015, out of a possible twelve trials[14] (six trials in the Tokyo MoU and six trials in the Paris MoU), the flag state United States attained White List, low risk status ten out of twelve trials or 83% of the sample period. From 2012 to 2015 out of a possible eight trials (four trials in the Tokyo MoU and for trials in the Paris MoU) the flag state United States attained White List, low risk status eight out of eight trials or 100% of the sample period.

Conclusion

Many committee members expressed reservations as to the ability of a Harbor Safety Committee to properly conduct an assessment of a federal program such as required by California Senate Bill 414. Yet,

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[12] "White, Grey and Black List." *Paris MoU*. Paris MoU, 2016. Web. 27 December 2016.

[13] Ibid.

[14] According to StatTrek.com, a binomial experiment is a statistical experiment. The experiment consists of set number of repeated trials. Each trial can result in just two possible outcomes, "success" and "failure". The trials are independent; meaning the outcome on one trial does not affect the outcome on other trials. In the case, "success" defined as a flag state listed on the White List and "failure" defined as flag state not listed on the White List.

Appendix D – United States Coast Guard's Port State Control and Marine Inspection Programs' Data and Detailed Report

The Los Angeles-Long Beach Harbor Safety Committee and the Harbor Safety Committee of the San Francisco Bay Region employed an innovative and streamlined approach to assess the condition of the United States Coast Guard's port state control program and marine inspection program.

The HSCs utilizing the Detention Rate derived from PSC regimes data was able to quantify the quality of vessels calling on California ports by comparing the California Vessel Detention Rate weighted average against the combined PSC regimes' detention rate weighted average. Using the California Vessel Detention Rate in this way enables for the relative assessment as to the condition/quality of vessels calling on California ports.

The assessments results were definitive and conclusive. Table 2 shows the California Vessel Detention Rate weighted average at 0.0064% is the lowest of all surveyed PSC organizations. Table 2 also indicates that vessels calling on California are 99.84% less likely to possess the characteristics that would warrant a PSC detention than other parts of the world.

Independent third party audits more commonly referred to as PSC inspections over the last six consecutive years have reflected favorably upon the flag state of United States as well as the condition of the U.S.C.G.'s Marine Inspection Program. During the sample period (2010-2015), the flag state of United States attained White List, low risk status 83% of the time. Moreover, over the past four consecutive years (2012-2015), the flag state United States attained White List, low risk status 100% of the time.

After conscientious and thorough review of the of data presented in this study, including PSC data from forty-five countries on five continents; 651,134 PSC vessel boardings; 350,943 Safety Examinations, 12,991 Detentions the HSCs find the following: The condition of United States vessels 300 GRT and greater, the condition of foreign vessels calling on California ports, the condition of the United States Coast Guard's Marine Inspection Program and Port State Control program to be adequate.

Appendix D – United States Coast Guard's Port State Control and Marine Inspection Programs' Data and Detailed Report

Tokyo MoU PSC Data				
Year	**Ship Boardings**	**Safety Examination**	**Detentions**	**Detention %**
2015	17,269	31,407	1,153	3.6712%
2014	16,761	30,405	1,203	3.9566%
2013	16,861	31,018	1,395	4.4974%
2012	16,439	30,929	1,421	4.5944%
2011	15,771	28,627	1,562	5.4564%
2010	14,536	25,762	1,411	5.4771%
Total	97,637	178,148	8,145	4.5720%

Paris MoU PSC Data				
Year	**Ship Boardings**	**Safety Examination**	**Detentions**	**Detention %**
2015	15,246	17,858	595	3.3318%
2014	15,377	18,430	612	3.3207%
2013	14,108	17,687	668	3.7768%
2012	14,646	18,308	669	3.6541%
2011	15,268	19,058	688	3.6100%
2010	14,762	24,058	790	3.2837%
Total	89,407	115,399	4,022	3.4853%

USCG (All Districts) PSC Data				
Year	**Ship Boardings**	**Safety Examination**	**Detentions**	**Detention %**
2015	73,752	9,265	202	2.1802%
2014	79,091	9,232	143	1.5490%
2013	83,535	9,394	121	1.2881%
2012	72,309	9,469	105	1.1089%
2011	79,031	10,129	97	0.9576%
2010	76,372	9,907	156	1.5746%
Total	464,090	57,396	824	1.4356%

USCG District 11 PSC Data				
Year	**Ship Boardings**	**Safety Examination**	**Detentions**	**Detention %**
2015	7,570	1,083	24	2.2161%
2014	8,113	1,020	12	1.1765%
2013	8,529	1,185	7	0.5907%
2012	7,491	1,163	14	1.2038%
2011	8,212	1,211	9	0.7432%
2010	7,137	1,115	9	.8072%
Total	47,052	6,777	75	1.1067%

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