

Appendix F

List of Public Workshops, Meetings, Phone calls,
Conferences, Site Visits, and Vessel tours
Supporting the Public Process for Development of
the Proposed Amendments

Proposed Amendments to the
Commercial Harbor Craft Regulation

Date of Release: September 21, 2021

Date of Hearing: November 19, 2021

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During the development of the Proposed Amendments to the Commercial Harbor Craft (CHC) Regulation, California Air Resources Board (CARB) staff conducted numerous meetings with members of impacted communities, environmental justice advocates, industry stakeholders (including vessel operators, seaports, terminal operators, industry associations, engine manufacturers, and emission control technology manufacturers), and public agencies (including Air Districts, United States Coast Guard (USCG), and California Public Utilities Commission (CPUC)). Meeting formats included public workshops, work group meetings, community meetings, and meetings with individual stakeholders.

These meetings were held in-person at a variety of locations, including at the California Environmental Protection Agency (CalEPA) headquarters building in Sacramento, California, and in-person visits to seaports/terminals and community forums, and also through webinars and phone calls. At these meetings, staff gave presentations on specific regulatory concepts and solicited comments and feedback from affected stakeholders. The tables in this appendix are a comprehensive look at CARB staff's informal meetings, calls, work groups, public workshops, and site visits undertaken during the development process for the Proposed Amendments.

Table F-1: List of Public Workshops, Webinars, and Other Public Presentations

Date	Purpose of Meeting	Primary Meeting Attendees	Type of Meeting	Location of Meeting
11/15/2018	Community outreach	Greenaction	In-person meeting	Bayview-Hunters Point, CA
12/4/2018	Regulatory development	General public, industry, public agency staff	Public Workshop	Long Beach, CA
12/10/2018	Regulatory development	General public, industry, public agency staff	Public Workshop	CalEPA Building, Sacramento
2/25/2019	Informational, regulatory development	Vessel operators, Port of Los Angeles and Long Beach staff	In-person meeting	Port of Long Beach, CA
5/9/2019	Regulatory development	Public and private marina, harbor, and port operators	Working group	CalEPA Building, Sacramento
3/05/2020	Regulatory development	General public, industry, public agency staff	Public Webinar	N/A
09/09/2020	Stockton AB 617 Community Steering Committee (CSC)	CSC members, general public	Public Webinar	N/A
9/30/2020	Regulatory development	General public, industry, public agency staff	Public Online Workshop (Zoom)	N/A
10/21/2020	Follow-Up Question & Answer Session for September 30, 2020 Public Workshop	General public, industry, public agency staff	Public Online Meeting (Microsoft Teams)	N/A
11/17/2020	Community outreach	San Diego Portside Environmental Justice CSC Meeting (Assembly Bill (AB) 617)	Online meeting	N/A
12/1/2020	Community outreach	San Diego Port Subcommittee Meeting	Online meeting	N/A
3/16/2021	Regulatory development	General public, industry, public agency staff	Public Online Workshop	N/A

Table F-2: List of Site Visits, Vessel Tours, Conference Presentations, and In-Person Meetings

Date	Visit/Tour Location	Purpose of Visit
4/25/2018	Port of Long Beach, CA	Participate in San Pedro Bay Ports Sustainable Supply Chain Advisory Committee Technical Meeting (Marine)
6/12/2018	Foss Maritime Richmond, CA	Site visit to observe Caden Foss Tier 4 escort tugboat
7/19/2018	Blue and Gold Fleet Pier 41 San Francisco	To learn about Blue and Gold Fleet's ferry operation and fleet operator/maintenance contract with Water Emergency Transportation Authority (WETA); ferry propulsion engine data logging.
7/30/2018	Blue and Gold Fleet Pier 41 San Francisco	On-site Installation of data logging devices
8/06/2018	Blue and Gold Fleet Pier 41 San Francisco	On-site Installation of data logging devices
9/14/2018	Hug Engineering	Discussion of diesel particulate filter (DPF) solutions for marine vessels
9/25/2018	University of California (UC), Berkeley	Meeting at UC Berkeley campus for CHC activity and emissions contract kick-off. Monthly meetings were held starting in October 2018 through May 2020.
9/25/2018	Crowley Ocean Reliance Articulated Tug Barge (ATB) Site Visit Shell Oil Refinery, Martinez, California	Site visit for ATB tug and tank barge tour to learn about ATB vessel vocation, operation, and design features.
9/27/2018	California Maritime Academy (CMA) Vallejo, California	Meeting at CMA campus for Tier 4 Feasibility Study Contract kick-off. Biweekly meetings were held.
9/28/2018	Delta College, Stockton, CA	CARB engineering staff site visit to attend California Council on Diesel Education and Technology (CCDET) III Opacity Testing Course obtaining certification.
10/02/2018	Red and White Fleet, Pier 43.5 San Francisco, CA	Site visit to learn about Red and White Fleet's operation and tour the Enhydra battery plug-in hybrid excursion vessel
10/17/2018	NorCal Clean Technologies Expo. Sacramento, CA	To view zero emission technologies and exhaust aftertreatment product offerings
11/27/2018	San Francisco Bar Pilots	Site visit to tour vessels and gain understanding of San Francisco Bar Pilot's fleet operation.
12/10/2018	CAT, CalEPA, Sacramento	Meeting to discuss CAT's Tier 4 marine engine product line and Clean Emissions Modules (CEM) aftertreatment systems.

Date	Visit/Tour Location	Purpose of Visit
12/21/2018	Manticore Advocacy, Cal/EPA, Sacramento	Meeting to discuss Red and White Fleet's zero-emissions infrastructure requirements
1/7/2019	Palmer Johnson Transpower Hybrid Presentation, CalEPA, Sacramento	Meeting to discuss Palmer Johnson's harbor craft hybrid propulsion systems
1/22/2019	Golden Gate Ferry, Larkspur, CA	Site visit to observe UC Riverside technical staff Portable Emissions Measurement System (PEMS) testing M/V Golden Gate vessel
1/23/2019	Zero and Near Zero-Emission Freight Facilities (ZANZEFF) Sustainable Terminals Accelerating Regional Transformation (START) Contract, CalEPA, Sacramento, CA	Meeting for contract kick-off
1/29/2019	WETA Vallejo Ferry Terminal	Site visit to observe UC Riverside technical staff PEMS testing WETA Hydrus ferry
2/19/2019	General Electric, CalEPA, Sacramento, CA	Meeting to discuss Category 2 Tier 4 marine engine product line
3/19/2019	Sacramento Convention Center	Site visit to view zero-emission vehicle and technologies exhibits.
4/09/2019	Baudouin Engines CalEPA, Sacramento	Meeting to discuss Baudouin's Tier 4 marine engine product line and CARB's proposed CHC Regulation Amendments.
4/12/2019	MKO Movable Plug Shore Power System	Meeting to discuss MKO's applicability to CHC shore power infrastructure and current product line.
4/16/2019	Hornblower CalEPA, Sacramento, CA	Meeting to discuss Hornblower's proposed DPF exhaust aftertreatment retrofit project.
4/17/2019	CMA, Vallejo, CA	Meeting to view CMA's proposed Tier 4 Feasibility Study Contract presentation
4/23/2019	Caterpillar (CAT) Care Event, Richmond, CA	CARB presentation to regulated stakeholders on Proposed CHC Regulation Amendments
5/08/2019	American Waterway Operators (AWO)/Foss/Pacific Merchant Shipping Association (PMSA)/Maxum Petroleum/Harley-Starlight Marine/Golden Marine Transportation/Crowley Maritime Fairfield, CA	CARB Meeting with AWO and Regulated stakeholders on Proposed Amendments
5/16/2019	Bay Ship and Yacht	Site visit to attend Water-Go-Round keel laying ceremony
6/25/2019	Bay Delta Maritime	Site visit to observe Delta Teresa escort tug operating with diesel-electric power take-in propulsion system.

Date	Visit/Tour Location	Purpose of Visit
6/26/2019	Caltrans Real McCoy II, Cache Slough, Ryer Island, CA	Site visit to a short-run ferry to better understand exhaust temperature and operational profiles
9/30/2019	Shell Oil Hydrogen Roadmap, CalEPA, Sacramento CA	Meeting with CARB to discuss Shell's hydrogen fueling infrastructure technology developments
10/17/2019	California Energy Commission Hydrogen Fuel Cell Remote Workshop	Online Workshop discussing hydrogen fuel cell applications in marine and rail applications
10/23/2019	Marine Recreation Association	CARB presentation at trade meeting to inform facility owners and operators about upcoming reporting and infrastructure obligations under CARB's Proposed Amendments
10/30/2019	Passenger Vessel Association (PVA) Workshop, Incline Village, Nevada	CARB presentation to PVA and attending stakeholders covering CARB's Draft Proposed Regulatory Concepts
12/09/2019	Baudouin, CalEPA, Sacramento, CA	Meeting to discuss Baudouin Tier 4 marine engines and CARB's Draft Proposed Regulatory Concepts
12/12/2019	Suisun Bay Reserve Fleet, CalEPA, Sacramento	Meeting to discuss CHC Regulation applicability to older low-use equipment and a proposed repower project from Tier 0 to Tier 2.
1/29/2020	WETA, Alameda, CA	Site visit for CARB staff to opacity test ferries.
2/04/2020	Crowley Valor Tug, San Francisco	Site visit for CARB staff to opacity test escort tugboat
2/06/2020	Suisun Bay Reserve Fleet	Site visit for CARB staff to opacity test tug and work boats.
2/11/2020	WETA, Alameda, CA	Site visit for CARB staff to opacity test ferries.
2/18/2020	WETA, Alameda, CA	Site visit for CARB staff to opacity test ferries.
3/10/2020	Foss Maritime, Richmond, CA	Site visit for CARB staff to opacity test Tier 4 escort tugboat
7/1/2020	Air & Waste Management Association (AWMA) Annual Meeting	CARB presentation on marine regulatory programs for CHC and OGVs
9/29/2020	U.S. EPA Region 9 STRIDE CARB Presentation on CARB's Draft Proposed Regulatory Concepts	Online GoToWebinar: CARB presentation to U.S. EPA Region 9 staff and public stakeholders outlining CARB's Draft Proposed Regulatory Concepts

Table F-3: List of Phone Calls and Microsoft Teams/Zoom Meetings

Date	Stakeholder/Company	Type and Purpose of Meeting
5/2/2018	Rypos	Discussion of DPF solutions for marine vessels
5/7/2018	Johnson Matthey	Discussion of DPF solutions for marine vessels
5/8/2018	Nett Technologies	Discussion of DPF solutions for marine vessels
5/9/2018	U.S. EPA	Discuss future plans for marine engine certification requirements
5/9/2018	AWO	In-person meeting with tug/towboat trade association to discuss Proposed Amendments
5/17/2018	USCG	Discuss Proposed Amendments and possible uses of U.S. Merchant Vessel Database to develop emission inventory
5/22/2018	Coalition for Clean Air (CCA)	General discussion of Proposed Amendments
5/29/2018	Clean Energy Fuels	Phone conference call: Liquefied Natural Gas (LNG) fueling infrastructure development for CHC
6/07/2018	Cummins Pacific Region Marine Director	Phone conference call: Cummins Tier 4 Marine engine product line
7/13/2018	U.S. EPA	Phone conference call: Developments in dual certification of International Maritime Organization (IMO)/U.S. EPA Tier 4 Marine engines
7/20/2018	Red and White Fleet	Phone call: To learn about the stakeholder's excursion vessel operation and schedule a future site visit.
8/08/2018	Valley Power Systems	Phone call: Inquiry to obtain wiring diagrams for MTU Series 60 marine propulsion engines
8/15/2018	Jensen Maritime Consultants Seattle, Washington	Phone call: To discuss details of a diesel-electric power take-in escort tug design under construction in Washington State
8/21/2018	Bay Ship and Yacht	Discuss USCG requirements for vessel stability reviews
8/23/2018	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss marine applications for hydrogen fuel cells.
9/05/2018	Valley Power Systems	Phone Call: To obtain MTU 4000 Series marine engine specifications sheets.
9/07/2018	Peterson CAT	Phone call: To obtain 3516B marine engine specification sheets.

Date	Stakeholder/Company	Type and Purpose of Meeting
9/13/2018	WETA	Phone Conference Call: To discuss WETA's operation and future fleet operating plans
9/14/2018	Hug Engineering	Phone Conference Call: To discuss Hug's marine engine emissions controls and future product development
9/14/2018	Crowley Maritime (Vessel Management Services Inc. and Intrepid Ship Management Inc.)	Phone Call: To request and obtain vessel main propulsion engine load factor data
9/19/2018	Bay Ship and Yacht Alameda, CA	Phone Call: To discuss CHC USCG regulatory classes
10/03/2018	Peterson CAT	Phone Call: To request engine specification data on C-280-12 engines
10/03/2018	Pape Machinery (John Deere) Sacramento, CA	Phone Call: To inquire about Tier 4 marine product line development
10/04/2018	Prop SF	Phone Call: Inquiry to discuss the charter ferry vessel sector
10/05/2018	Tideline Charter Services	Phone Call: Inquiry to discuss the charter ferry vessel sector
10/09/2018	CMA	Phone Conference Call: Tier 4 feasibility study contract development
10/11/2018	Red and White Fleet	Phone Conference Call: To discuss project funding requested/received for Enhydra vessel build; plans for future shore side charging infrastructure.
10/12/2018	Cavotec	Phone Call: To discuss battery-electric vessel charging equipment
10/18/2018	CMA	Phone Conference Call: Tier 4 Feasibility Study Contract development
10/23/2018	WETA	Phone Conference Call: To discuss WETA fleet expansion plans.
10/30/2018	Nichols Brothers	Phone Call: Inquiry about reference regarding tugboat vessel construction costs.
11/01/2018	Carl Moyer Incentive Funding Program	Phone Conference Call: To discuss marine/CHC funding options
11/06/2018	CMA	Phone Conference Call: To discuss Tier 4 Feasibility Study Contract development

Date	Stakeholder/Company	Type and Purpose of Meeting
11/09/2018	UC Berkeley	Phone Conference Call: To discuss contract status
11/16/2018	Prop SF	Phone Call: To discuss charter ferry sector and fleet expansion plans.
11/20/2018	Curtin Maritime	Phone Call: To discuss CHC Regulation requirements for interstate towing vessels.
11/21/2018	MTU	Phone Call: Inquiry to obtain 4000 Series engine specifications
11/30/2018	CAT	Phone Call: To discuss Tier 3 Emissions Upgrade Group U.S. EPA certification progress
12/05/2018	Cummins	Phone Conference: To discuss Tier 4 marine engine product line development
12/11/2018	Eco-Yacht Group	Phone Call: To discuss CHC hybrid technology product line
12/14/2018	Tideline Water Taxi	Phone Call: To discuss CHC Regulation and obtain vessel activity data for charter ferry sector
12/14/2018	CAT	Phone Call: To discuss 3500 Series propulsion engine market volume in CA.
12/14/2018	UC Berkeley Contract Call	Phone Conference Call: To discuss GPS logging and exhaust plume entrainment measurements of harbor craft
12/18/2018	Tideline Water Taxi	Phone Call: To discuss Tideline's fleet activity
12/20/2018	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project
12/21/2018	National Resources Defense Council (NRDC) China	Call to discuss California CHC requirements and learn about forthcoming NRDC white paper on marine vessel requirements
12/26/2018	Sause Bros. Ocean Towing	Phone Call: To discuss participation in UC Berkeley GPS contract and to request main engine load factor data.
1/07/2019	CMA	Phone Conference Call: To discuss Tier 4 Feasibility Study Contract.

Date	Stakeholder/Company	Type and Purpose of Meeting
1/08/2019	S.W. Research Hybrid CHC Systems	Phone Call: To discuss hybrid CHC propulsion systems technology and applications in Europe and North America.
1/14/2019	UC Berkeley	Phone Conference Call: To discuss contract status
1/15/2019	Port of San Diego	Phone Conference Call: To discuss CHC Draft Proposed Rulemaking Regulatory Concepts.
1/16/2019	Nichols Brothers Boat Builders	Phone Call: To discuss Tier 4 tugboats under construction
1/17/2019	CAT	Phone Conference Call: To discuss 3500 Series Tier 3 Emissions Upgrade Group (EUG) and proposed CHC Regulation Amendments
1/17/2019	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round project
1/18/2019	USCG, San Francisco Sector	Phone Call: To discuss harbor craft regulatory classes and 46 CFR Subchapter requirements.
1/25/2019	Port of Los Angeles/Long Beach	Phone Conference Call: To discuss CHC Draft Proposed Rulemaking Regulatory Concepts.
1/28/2019	Red and White Fleet	Phone Conference Call: To discuss CARB excursion vessel PEMS testing
1/30/2019	Port of Long Beach Technology Advancement Program (TAP)	Phone Conference Call: To obtain updates on CHC retrofit exhaust aftertreatment projects and diesel-electric tug project
1/30/2019	MTU	Phone Call: To discuss 4000 Series marine propulsion engine fuel rate reduction algorithms
1/30/2019	Harley Marine	Phone Call: To discuss diesel-electric tugboat project and baseline tugboat selection for PEMS testing.
1/31/2019	Port of Long Beach grant via ZANZEFF and START Contracts	Phone Conference Call: To discuss baseline tugboat PEMS testing
2/01/2019	Red and White Fleet	Phone Conference Call: To discuss CARB excursion vessel PEMS testing project
2/07/2019	San Francisco Bar Pilots	Phone Call: To request main engine load factor data.
2/07/2019	Sause Bros. Ocean Towing	Phone Call: To request main engine load factor data.

Date	Stakeholder/Company	Type and Purpose of Meeting
2/12/2019	CAT	Phone Call: To discuss Carl Moyer funding for 3500 Series Tier 3 EUGs.
2/12/2019	CMA	Phone Conference Call: To discuss Tier 4 Feasibility Contract development
2/13/2019	Washington State Ferries	Phone call: To request information on battery-electric fleet upgrade project.
2/13/2019	Motor Services Hugo Stamp (Baudouin)	Phone Conference Call: To discuss Baudouin Tier 4 marine product line and proposed CARB CHC Regulation Amendments
2/14/2019	Foss Maritime	Phone Call: To discuss obtaining load factor data on tugboat main engines
2/14/2019	Marine Spill Response Corporation	Phone Call: Follow up on UC Berkeley GPS tracking and exhaust plume entrainment measurement contract
2/21/2019	Golden Gate Zero Emission Marine	Phone Call: Update on Water-Go-Round Ferry project
2/26/2019	Red and White Fleet	Phone Call: Follow up on obtaining main engine load factor and activity data
2/26/2019	CMA	Phone Conference Call: To discuss Tier 4 Feasibility Contract development
3/01/2019	Port of San Francisco	Phone Conference Call: To discuss CHC Draft Proposed Rulemaking Regulatory Concepts.
3/04/2019	Caltrans	Phone Call: Follow up on exhaust aftertreatment retrofit project for exhaust temperature profile data logging.
3/4/2019	Flagship Cruises & Events	Discussion of ferry operations and anticipated future activity growth
3/05/2019	Harley Marine	Phone Call: Follow up on obtaining main engine load factor and activity data.
3/05/2019	Sause Bros. Ocean Towing	Phone Call: Follow up on obtaining main engine load factor and activity data
3/05/2019	Foss Maritime	Phone Call: Follow up on obtaining main engine load factor and activity data

Date	Stakeholder/Company	Type and Purpose of Meeting
3/05/2019	CAT	Phone Call: Inquiry about European (EU) Stage V Inland Waterway marine engine product development
3/05/2019	Cummins	Phone Call: Inquiry about EU Stage V Inland Waterway marine engine product development
3/05/2019	John Deere	Phone Call: Inquiry about EU Stage V Inland Waterway marine engine product development
3/05/2019	Detroit Diesel (Valley Power Systems)	Phone Call: Inquiry about EU Stage V Inland Waterway marine engine product development
3/05/2019	Volvo Penta	Phone Call: Inquiry about EU Stage V Inland Waterway marine engine product development
3/05/2019	Yanmar	Phone Call: Inquiry about EU Stage V Inland Waterway marine engine product development
3/05/2019	Perkins Diesel	Phone Call: Inquiry about EU Stage V Inland Waterway marine engine product development
3/05/2019	Northern Lights	Phone Call: Inquiry about EU Stage V Inland Waterway marine engine product development
3/05/2019	Scania	Phone Call: Inquiry about EU Stage V Inland Waterway marine engine product development
3/05/2019	Kubota	Phone Call: Inquiry about EU Stage V Inland Waterway marine engine product development
3/05/2019	Mitsubishi	Phone Call: Inquiry about EU Stage V Inland Waterway marine engine product development
3/06/2019	Crowley Maritime	Phone Call: Follow up on obtaining tugboat main engine load factor and activity data
3/06/2019	Red and White Fleet	Phone Call: Follow up on fleet activity data, renewable diesel (RD) fuel, and CARB excursion vessel PEMS testing project plan.
3/07/2019	CAT	Phone Call: Follow up on obtaining 3500 Series engine specification sheets for various engine power ratings for vessel load factor analysis.
3/07/2019	ZANZEFF/START	Phone Conference Call: To discuss baseline PEMS testing and tugboat selection.

Date	Stakeholder/Company	Type and Purpose of Meeting
3/11/2019	Harley Marine	Phone Call: Follow up on obtaining tugboat main engine load factor and activity data
3/12/2019	WETA	Phone Call: Follow up on obtaining tugboat main engine load factor and activity data
3/12/2019	CMA	Phone Conference Call: To discuss Tier 4 Feasibility Contract development
3/12/2019	Red and White Fleet	Phone Call: Follow up on fleet activity data, RD fuel, and CARB excursion vessel PEMS testing project plan.
3/14/2019	Port of Oakland	Phone Conference Call: To discuss CHC Draft Proposed Rulemaking Regulatory Concepts.
3/14/2019	ZANZEFF/START	Phone Conference Call: To discuss baseline PEMS testing and tugboat selection.
3/15/2019	Port of Redwood City	Phone Conference Call: To discuss CHC Draft Proposed Rulemaking Regulatory Concepts.
3/15/2019	CARB Enforcement Division	Phone Conference Call: To discuss proposed CHC Regulation Amendments.
3/18/2019	WETA	Phone Conference Call: To discuss vessel main engine PEMS testing results
3/18/2019	Golden Gate Ferry	Phone Conference Call: To discuss Golden Gate Ferry's request for proposal (RFP) for a new ferry class design.
3/19/2019	Kirby Corp.	Phone Call: To discuss Kirby's ATB fleet activities in Regulated CA Waters.
3/19/2019	CAT	Phone Call: To discuss 3500 Series Main engine load factor data and how CAT measures engine fuel consumption during sea-trials and engine dyno certification testing.
3/21/2019	Port of Richmond	Phone Conference Call: To discuss CHC Draft Proposed Rulemaking Regulatory Concepts.
3/21/2019	Golden Gate Zero Emission Marine	Phone Conference Call: Update on Water-Go-Round Ferry project
3/21/2019	AWO	Phone Call: To discuss AWO's request for CARB to recognize additional Subchapter M towing vessel sub-categories

Date	Stakeholder/Company	Type and Purpose of Meeting
3/21/2019	Crowley Maritime	Phone Call: To discuss escort tug activities, operational protocols, and certification requirements with California Department of Fish and Wildlife's (CDFW) Office of Spill Prevention and Response (OSPR)
3/22/2019	U.S. EPA	Phone Conference Call: Follow up on U.S. EPA's current marine regulations and future marine focus for harbor craft, marine engine market volumes, Tier 4 marine certification process.
3/25/2019	AWO	Phone Call: Follow up on towing vessel subcategories and related operational protocols.
3/26/2019	CMA	Phone Conference Call: Tier 4 Feasibility Study Contract development
3/27/2019	Port of West Sacramento	Phone Conference Call: To discuss CHC Draft Proposed Rulemaking Regulatory Concepts.
4/02/2019	Sause Bros. Ocean Towing	Phone Call: Follow up on main engine load factor data request
4/02/2019	Kirby Corp	Phone Call: Follow up on main engine load factor data request
4/03/2019	Port of Stockton	Phone Conference Call: To discuss CHC Draft Proposed Rulemaking Regulatory Concepts.
4/09/2019	CMA	Phone Conference Call: Tier 4 Feasibility Study Contract development
4/11/2019	Red and White Fleet	Phone Conference Call: Follow up on CARB excursion vessel testing plan
4/15/2019	CMA	Phone Conference Call: Tier 4 Feasibility Study Contract development
4/22/2019	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round Project
4/25/2019	Red and White Fleet	Phone Conference Call: To discuss CARB excursion vessel PEMS testing project
5/07/2019	CMA	Phone Conference Call: Tier 4 Feasibility Study Contract development
5/08/2019	Crowley Maritime and PMSA	Phone Conference Call: To discuss ATB operations and CARB's proposed plans to regulate ATB emissions

Date	Stakeholder/Company	Type and Purpose of Meeting
5/16/2019	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss upcoming Water-Go-Round hydrogen ferry project.
5/17/2019	Golden Gate Ferry	Phone Conference Call: To discuss GGF's new ferry class RFP
5/17/2019	UC Berkeley	Phone Conference Call: To discuss contract status
5/20/2019	WETA	Phone Conference Call: To discuss WETA Hydrus Vessel Retrofit SCR system
5/20/2019	CMA	Phone Conference Call: Tier 4 Feasibility Study Contract development
6/03/2019	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss upcoming Water-Go-Round hydrogen ferry project, hydrogen fuel cell barge project proposal
6/04/2019	CMA	Phone Conference Call: Tier 4 Feasibility Study Contract development
6/18/2019	CMA	Phone Conference Call: Tier 4 Feasibility Study Contract update
6/18/2019	Bay Delta Maritime	Phone Call: To coordinate CARB site visit
6/19/2019	Bay Delta Maritime	Phone Call: To coordinate CARB site visit
6/20/2019	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project
6/20/2019	CAT	Phone Call: To discuss 3500 Series engine Tier 3 EUG kits.
6/26/2019	Harley Marine	Phone Call: To discuss Harley ATB operations in Regulated CA Waters
7/02/2019	CMA	Phone Conference Call: To discuss Tier 4 Feasibility Contract update
7/08/2019	U.S. EPA	Phone Conference Call: To discuss U.S. EPA Tier 4 marine standards below 600 kW and EU Stage V Inland Waterway engines
7/12/2019	UC Berkeley	Phone Conference Call: To discuss contract status
7/16/2019	CMA	Phone Conference Call: To discuss Tier 4 Feasibility Contract update
7/16/2019	Crowley Maritime	Phone Call: To discuss Crowley zero emission battery-electric tugboat project

Date	Stakeholder/Company	Type and Purpose of Meeting
7/18/2019	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
8/07/2019	Hug Engineering	Phone Conference Call: To discuss exhaust aftertreatment system CARB Verification
8/08/2019	CMA	Phone Conference Call: To discuss Tier 4 Feasibility Contract update
8/09/2019	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss zero emission tugboat project proposal
8/13/2019	CMA	Phone Conference Call: To discuss Tier 4 Feasibility Contract update
8/15/2019	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
8/15/2019	Port of Long Beach ZANZEFF/START Project	Phone Conference Call: To discuss project updates
8/21/2019	Vortex Marine Construction	Phone Call: To discuss CARB CHC Regulation
8/26/2019	Port Hueneme Pilot's Association	Phone Call: To discuss pilot vessel activity at Port Hueneme
8/26/2019	Eureka Bar Pilot's Association (Humboldt Bay)	Phone Call: To discuss pilot vessel activity at Humboldt Bay.
8/27/2019	WETA	Phone Conference Call: To discuss WETA's battery-electric ferry project in Mission Bay
8/28/2019	CMA	Phone Conference Call: To discuss Tier 4 Feasibility Contract update
9/09/2019	Engine Manufacturers Association (EMA)	Phone Conference Call: To discuss CARB's proposed regulations for marine engines under 600 kW; Working with U.S. EPA to develop dual certification process for U.S. EPA Tier 4/ IMO/EU Stage V Inland Waterway engines.
9/10/2019	CMA	Phone Conference Call: To discuss Tier 4 Feasibility Contract update
9/13/2019	UC Berkeley	Phone Conference Call: To discuss contract status
9/17/2019	WETA	Phone Conference Call: To discuss Hug Vari-NOx SCR aftertreatment on Hydrus Class WETA ferries
9/19/2019	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update

Date	Stakeholder/Company	Type and Purpose of Meeting
9/19/2019	Port of Long Beach ZANZEFF/START Project	Phone Conference Call: To discuss project updates
9/24/2019	CMA	Phone Conference Call: To discuss Tier 4 Feasibility Contract update
9/27/2019	Engine Manufacturers Association	Phone Call: To discuss EU Stage V engine U.S. EPA Certification
10/02/2019	Golden Gate Ferry	Phone Conference Call: To follow up on previous Passenger Vessel Association (PVA) meeting
10/04/2019	San Diego Bar Pilots Association	Phone Call: To discuss SDBPA's fleet activity in Regulated CA Waters (RCW) and applicability of the CARB CHC Regulation
10/07/2019	UC Berkeley	Phone Conference Call: To discuss contract status
10/11/2019	Harley Marine	Phone Call: To discuss diesel-electric tugboat project update
10/17/2019	Berkeley Marine Center	Phone Call: To discuss Transfluid hybrid propulsion system funding for a commercial fishing vessel Tier 3 repower project.
10/31/2019	Starlight Marine (Harley)	Phone Call: To discuss Starlight Marine's bunkering operations and CHC/barge activity in RCW
10/31/2019	Foss Maritime Bunkering, Richmond, CA	Phone Call: To discuss Foss Maritime's SF Bay bunkering operations and CHC-bunker barge activity in RCW
10/31/2019	Clipper Petroleum	Phone Call: Inquiry about Clipper bunkering activity in RCW
10/31/2019	Jankovich Company, San Pedro, CA	Phone Call: Inquiry about Jankovich bunkering activity in RCW
11/13/2019	Maxum Petroleum, Richmond Office	Phone Call: Inquiry about SF Bay area bunkering activity
11/1/2019	Baudouin	Phone Conference Call: To discuss Baudouin Tier 4 marine engines
11/05/2019	Wager Company, Inc.	Phone Conference Call: To discuss Wager opacity testing equipment and costs
11/05/2019	Red Mountain	Phone Conference Call: To discuss Red Mountain opacity testing equipment and costs

Date	Stakeholder/Company	Type and Purpose of Meeting
11/07/2019	Spear Power Systems	Phone Conference Call: To discuss Spear Power Systems product line and recent CHC marine energy storage system projects. (Battery-electric propulsion CHC projects).
11/08/2019	U.S. EPA	Phone Call: To discuss dual certification pathway for EU Stage V Inland Waterway engines
11/12/2019	Red and White Fleet	Phone Call: To discuss RD in marine applications, San Francisco Public Utilities rate structuring, solar array plan for charging Enhydra excursion Vessel.
11/14/2019	U.S. EPA	Phone Call: To develop U.S. EPA Tier 4 dual-certification pathway for EU Stage V engines
11/14/2019	California Department of Fish and Wildlife (CDFW) Commercial Unit Office of Spill Prevention and Response (OSPR)	Phone Call: To discuss CDFW's OSPR program for escort tugboat certification.
11/14/2019	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects
11/15/2019	Crowley	Phone Call: To discuss CARB's Draft Proposed Regulatory Concepts on zero emission CHC applications.
11/21/2019	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects
11/21/2019	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
11/25/2019	All American Marine (AAM)	Phone Call: To discuss feasibility of Baudouin Tier 4 marine propulsion engines in new-build and existing Subchapter-T catamaran ferries.
11/26/2019	All American Marine (AAM)	Phone Call: Further discussion of feasibility of Baudouin Tier 4 marine propulsion engines in new-build and existing Subchapter-T catamaran ferries.
11/27/2019	Nett Technologies	Phone Conference Call: To discuss CARB's Draft Proposed Regulatory Concepts and CARB Verification requirements.
12/03/2019	Baudouin	Phone Call: To discuss CARB's proposed CHC Regulation Amendments and applicability to engines under 600 kW

Date	Stakeholder/Company	Type and Purpose of Meeting
12/04/2019	Hug Engineering	Phone Conference Call: To discuss DPF retrofit systems for marine propulsion systems
12/12/2019	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects
12/16/2019	Crowley	Phone Call: To discuss zero emission battery-electric tug project update
12/16/2019	Bay Delta Maritime	Phone Call: To discuss tugboat main engine U.S. EPA Tiers and engine useful life
12/19/2019	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
12/19/2019	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects
1/02/2020	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects; baseline PEMS tugboat testing plan
1/02/2020	Island Packers	Phone Conference Call: To discuss CARB BACT applicability to ferries versus excursion vessels
1/07/2020	CDFW	Phone Call: To discuss commercial fishing vessel license database; harbor tug activity update in Stockton
1/09/2020	Maid of the Mist Niagara Falls, New York	Phone Call: To discuss obtaining details on recent new-build zero-emission excursion vessels
1/09/2020	Gee's Bend Ferry, Alabama	Phone Call: To discuss zero-emission ferry retrofit project, operation, and shore side power infrastructure
1/09/2020	USCG Marine Safety Center (MSC) Engineering Division	Phone Call: To discuss USCG guidance on addressing CHC industry concerns about DPF installations in numerous CHC Subchapter vessel types.
1/10/2020	Gee's Bend Ferry, Alabama	Phone Call: Discussion of Gee's Bend Ferry's experience with zero-emission battery-electric ferry operations and shore power infrastructure construction
1/10/2020	UC Berkeley	Phone Conference Call: To discuss contract status
1/13/2020	USCG MSC	Phone Call: Follow up on CHC DPF questions

Date	Stakeholder/Company	Type and Purpose of Meeting
1/15/2020	Bay Delta Maritime	Phone Call: To discuss CARB site visit for escort tugboat opacity testing
1/16/2020	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
1/16/2020	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects; baseline PEMS tugboat revised testing plan
1/22/2020	WETA	Phone Conference Call: To discuss CARB opacity testing site visit
1/23/2020	Cochran	Phone Call: To discuss shore power construction projects and costs
1/24/2020	Bay Delta Maritime	Phone Call: To discuss CARB site visit for escort tugboat opacity testing
1/24/2020	Suisun Bay Reserve Fleet	Phone Call: To coordinate site visit for CARB staff tugboat and workboat opacity testing
1/27/2020	Red and White Fleet	Phone Call: Follow up call to obtain maintenance records and activity data for opacity-tested engines
2/03/2020	ABB	Phone Call: To discuss battery electric zero-emission CHC applicability and current vessels/projects
2/03/2020	Crowley Maritime	Phone Call: To discuss CARB's Draft Proposed Regulatory Concepts for zero-emission CHC applications
2/03/2020	Suisun Bay Reserve Fleet	Phone Call: To verify time for CARB staff tugboat and workboat opacity testing
2/03/2020	Bay Delta Maritime	Phone Call: To verify time and vessel availability for CARB site visit for escort tugboat opacity testing
2/05/2020	Golden Gate Ferry	Phone Conference Call: To discuss Proposed Amendments and Tier 4 feasibility for current vessels
2/13/2020	USCG MSC	Phone Call: To discuss vessel design standards relating to harbor craft exhaust systems and applicability to DPFs
2/20/2020	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
2/20/2020	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects; baseline PEMS tugboat testing plan
2/24/2020	WETA	Phone Conference Call: To discuss opacity testing results

Date	Stakeholder/Company	Type and Purpose of Meeting
2/26/2020	Foss Maritime	Phone Call: To obtain permission and verify date and arrival time for opacity testing Caden Foss tug
2/26/2020	AWO	Phone Conference Call: To discuss CARB's Draft Proposed Regulatory Concepts
3/09/2020	U.S. EPA Region 9	Phone Conference Call: To discuss DERA funding and harbor craft zero emission projects
3/13/2020	UC Berkeley	Phone Conference Call: To discuss contract status
3/19/2020	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
3/19/2020	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects; baseline PEMS tugboat testing plan
4/03/2020	Flagship Cruises	Phone Call: To discuss CARB CHC Regulation Amendments
4/08/2020	Long Beach Transit	Phone Call: To discuss CARB's Draft Proposed Regulatory Concepts.
4/08/2020	AWO	Phone Call: To discuss AWO questions on CARB CHC population and CHC emissions inventory
4/08/2020	Catalina Classic Cruises	Phone Call: To discuss CARB's CHC Regulation and 2020 Rulemaking
4/16/2020	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
4/16/2020	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects; baseline PEMS tugboat testing plan
4/17/2020	Blue and Gold Fleet	Phone Conference Call: To discuss CARB Low-Use Exemption and proposed changes to this provision in Draft Proposed Regulatory Concepts
4/21/2020	Glosten	Microsoft Teams Meeting: To discuss CARB's Draft Proposed Regulatory Concepts
4/27/2020	Sport Fishing Association of CA (SAC)	Microsoft Teams Meeting: To discuss CARB's Draft Proposed Regulatory Concepts
5/21/2020	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update

Date	Stakeholder/Company	Type and Purpose of Meeting
5/21/2020	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects
5/27/2020	U.S. EPA	Microsoft Teams Meeting: To discuss pathways for battery-electric vehicle and vessel technologies
6/04/2020	MAN Diesel Engines	Skype Meeting: To discuss pathways to dual-certification of EU Stage V marine engines in U.S.
6/09/2020	U.S. EPA	Microsoft Teams Meeting: To discuss CARB's Draft Proposed Regulatory Concepts; developing dual-certification pathway for EU Stage V engines.
6/15/2020	Plug-Power	Microsoft Teams Meeting: To discuss fuel cell power applications in marine, rail, and cargo handling sectors.
6/16/2020	Sause Bros. Ocean Towing	Microsoft Teams Meeting: To discuss Sause Bros. comment letters re: Draft Proposed Regulatory Concepts
6/16/2020	Jacobsen Pilot Service	Microsoft Teams Meeting: To discuss Jacobsen Pilot Service comment letters re: Draft Proposed Regulatory Concepts
6/17/2020	MTU Diesel Engines	Microsoft Teams Meeting: To discuss demonstrating compliance with CARB's Draft Proposed In-Use Performance Emissions Standards
6/18/2020	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects
6/18/2020	Golden Gate Zero Emission Marine	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
6/22/2020	SAC	Microsoft Teams Meeting: To discuss CARB's Draft Proposed Regulatory Concepts
6/23/2020	Golden Gate Ferry	Microsoft Teams Meeting: To discuss comment letter and CARB's Draft Proposed Regulatory Concepts
6/23/2020	Opti-Fuel	Microsoft Teams Meeting: To discuss CARB's Draft Proposed Regulatory Concepts and pathways for CNG/LNG fuels in harbor craft applications
6/26/2020	San Francisco Bar Pilots	Microsoft Teams Meeting: To discuss comment letter and CARB's Draft Proposed Regulatory Concepts
6/26/2020	WETA	Microsoft Teams Meeting: To discuss comment letter and CARB's Draft Proposed Regulatory Concepts

Date	Stakeholder/Company	Type and Purpose of Meeting
6/26/2020	Port of Oakland Seaport Air Quality 2020 and Beyond Plan: The Pathway to Zero Emissions	Public Webinar hosted by Port of Oakland to discuss pathways to zero emissions
6/30/2020	RE Staite Engineering	Microsoft Teams Meeting: To discuss comment letter and CARB's Draft Proposed Regulatory Concepts
7/07/2020	SAC	Microsoft Teams Meeting: To discuss comment letter and CARB's Draft Proposed Regulatory Concepts
7/08/2020	WETA	Microsoft Teams Meeting: To discuss comment letter and CARB's Draft Proposed Regulatory Concepts
7/09/2020	U.S. EPA	Microsoft Teams Meeting: To discuss pathway to dual-certification for EU Stage V Inland Waterway engines
7/10/2020	UC Riverside	Microsoft Teams Meeting: To discuss baseline tugboat PEMS testing plan (ZANZEFF Project)
7/10/2020	Port of Oakland Task Force Meeting	Public Webinar hosted by Port of Oakland to discuss pathways to zero emissions
7/13/2020	AWO	Microsoft Teams Meeting: To discuss CARB towing vessel population and emissions inventory methodology
7/13/2020	Indecon	Microsoft Teams Meeting: to discuss CARB Draft Proposed Regulatory Concepts and applicability of Indecon software.
7/14/2020	AWO	Microsoft Teams Meeting: To discuss CARB towing vessel population and emissions inventory methodology
7/16/2020	Switch Maritime and Bay Area Air Quality Management District (BAAQMD)	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
7/17/2020	CPUC	Microsoft Teams Meeting: Discuss CPUC Vessel Common Carrier requirements on ferries regulated by CARB's CHC regulation
7/20/2020	AWO	Microsoft Teams Meeting: To discuss CARB towing vessel population and emissions inventory methodology
7/21/2020	CDFW	Microsoft Teams Meeting: To request fishing vessel licensing data for CARB's CHC population and emissions inventory
7/23/2020	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects

Date	Stakeholder/Company	Type and Purpose of Meeting
7/23/2020	WETA	Microsoft Teams Meeting: To discuss Draft Proposed Regulatory Concepts and compliance costs/timeline
7/24/2020	Cochran	Phone Call: To request cost data on shore power infrastructure construction
7/24/2020	AMNAV	Microsoft Teams Meeting: To discuss AMNAV comment letter and CARB's Draft Proposed Regulatory Concepts
7/28/2020	MTU Diesel Engines	Skype Call: To discuss compliance with CARB's Draft Proposed Regulatory Concepts
8/05/2020	Bay Delta Maritime	Phone Call: To discuss Delta Teresa diesel-electric power take-in system efficiency
8/06/2020	AWO	Phone Call: To discuss CARB's Draft Proposed Regulatory Concepts
8/6/2020	Port of San Diego	Briefing on Maritime Clean Air Strategy at Port of San Diego
8/10/2020	Marine Exchange of Alaska, Juneau, AK	Phone Call: To discuss vessel tracking contract to support implementation of CARB's Draft Proposed Regulatory Concepts.
8/18/2020	Crowley	Microsoft Teams Meeting: To discuss Draft Proposed Regulatory Concepts and ATB compliance costs/timeline
8/18/2020	Bay Delta Maritime	Phone Call: To discuss tug services rate sheets in California.
8/20/2020	Switch Maritime and BAAQMD	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
8/20/2020	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects
8/20/2020	San Francisco Marine Exchange	Phone Call: Inquiry about tanker/ATB/OTB tug escort requirements and OGV vessel type codes.
8/26/2020	UC Berkeley	Phone Conference Call: To discuss contract final report results
8/27/2020	Switch Maritime/CARB	Microsoft Teams Meeting: To discuss CARB Low Carbon Fuel Standard (LCFS) credits for hydrogen production
9/03/2020	Flagship Cruises	Microsoft Teams Meeting: To discuss CARB's Draft Proposed Regulatory Concepts and inquire about Flagship Cruises fleet operation

Date	Stakeholder/Company	Type and Purpose of Meeting
9/03/2020	ABB	Phone Call: To discuss CARB's Draft Proposed Regulatory Short-Run Ferry Concept.
9/15/2020	Marine Exchange of Alaska (MXAK)	Phone Call: Follow up call on vessel tracking contract inquiry
9/16/2020	Switch Maritime and BAAQMD	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
9/16/2020	Crowley	Microsoft Teams Meeting: To discuss Draft Proposed Regulatory Concepts and ATB compliance costs
9/16/2020	Long Beach Transit	Microsoft Teams Meeting: To discuss CARB's Draft Proposed Regulatory Concepts and Draft Proposed Short-Run Ferry Regulatory Concept.
9/16/2020	Golden Gate Zero Emission and Marine	Microsoft Teams Meeting: Discuss zero emission applications in the marine harbor craft sector
9/17/2020	MXAK	Microsoft Teams Meeting: Follow up call on vessel tracking contract inquiry
9/17/2020	Switch Maritime and BAAQMD	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
9/17/2020	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects
9/21/2020	MXAK	Microsoft Teams Meeting: Follow up call on vessel tracking contract inquiry
9/23/2020	Angel Island Ferry	Microsoft Teams Meeting: To discuss CARB's Draft Proposed Regulatory Concepts
9/23/2020	CDFW	Phone Call: Follow up on commercial fishing and commercial passenger fishing vessel data request
9/24/2020	California Strategies and Advocacy (Re: Hornblower)	Microsoft Teams Meeting: To discuss Alcatraz Ferries and CARB's Draft Proposed Regulatory Concepts
9/28/2020	Aurigna/SeaClean/Purenautics	Microsoft Teams Meeting: To discuss SeaClean's exhaust retrofit technologies and applicability to CARB's Draft Proposed Regulatory Concepts
9/29/2020	Vane Bros	Microsoft Teams Meeting: To discuss Vane Bros ATB activities in RCW and CARB's Draft Proposed Regulatory Concepts

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10/05/2020	MXAK	Microsoft Teams Meeting: Follow up call on vessel tracking contract inquiry
10/06/2020	MXAK	Microsoft Teams Meeting: Follow up call on vessel tracking contract inquiry
10/8/2020	Environmental Defense Fund	Microsoft Teams Meeting: To discuss CARB's Draft Proposed Regulatory Concepts
10/12/2020	WETA	Microsoft Teams Meeting: To discuss WETA's SF Ferry Building Terminal construction project and request shore power cost data.
10/13/2020	SAC	Microsoft Teams Meeting: To discuss comment letter and CARB's Draft Proposed Regulatory Concepts
10/15/2020	Switch Maritime and BAAQMD	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
10/15/2020	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects
10/15/2020	Ports of Los Angeles and Long Beach	Discussion of proposed facility reporting and infrastructure requirements at San Pedro Bay Ports
10/20/2020	Catalina Express	Microsoft Teams Meeting: To discuss CARB's Draft Proposed Regulatory Concepts
10/22/2020	Crowley Maritime	Microsoft Teams Meeting: To request ATB activity data supporting CARB's Draft Proposed Regulatory Concepts
10/26/2020	Catalina Express	Microsoft Teams Meeting: To discuss comment letter and CARB's Draft Proposed Regulatory Concepts
10/27/2020	WETA	Microsoft Teams Meeting: Follow up meeting to discuss WETA's SF Ferry Building Terminal construction project and request shore power cost data.
10/28/2020	MTU Diesel Engines	Skype Call: Follow up meeting to discuss compliance with CARB's Draft Proposed Regulatory Concepts
10/29/2020	CAT	Microsoft Teams Meeting: To discuss compliance with CARB's Draft Proposed Regulatory Concepts
11/03/2020	Christopher Nielson (Sen. McGuire's Office)	Zoom Meeting: To provide additional cost and incentive information available for short-run ferries
11/04/2020	Switch Maritime	Zoom Meeting: To discuss CARB request for vessel financing information

Date	Stakeholder/Company	Type and Purpose of Meeting
11/05/2020	Vane Bros	Microsoft Teams Meeting: Follow up meeting to discuss CARB's Draft Proposed Regulatory Concepts
11/12/2020	AWO	Microsoft Teams Meeting: Follow up meeting on towing vessel stakeholder outreach regarding CARB's Draft Proposed Regulatory Concepts
11/12/2020	RE Staite Engineering	Microsoft Teams Meeting: To discuss compliance with CARB's Draft Proposed Regulatory Concepts
11/13/2020	WETA	Microsoft Teams Meeting: To discuss Draft Proposed Regulatory Concepts WETA Fleet compliance costs and timelines
11/16/2020	Electro-Motive Diesel (EMD)	Microsoft Teams Meeting: To discuss compliance with CARB's Draft Proposed Regulatory Concepts
11/18/2020	Port of Oakland Seaport Air Quality 2020	Public Webinar hosted by Port of Oakland
11/19/2020	Switch Maritime and BAAQMD	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
11/19/2020	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects
11/19/2020	Kirby Corp	Microsoft Teams Meeting: To discuss compliance with CARB's Draft Proposed Regulatory Concepts
11/30/2020	MXAK	Microsoft Teams Meeting: Follow up call on vessel tracking contract inquiry
12/01/2020	Peacock Piper (Re: Marine Spill Response Corporation)	Microsoft Teams Meeting: To discuss Low-Use Exemption provision and fleet compliance with CARB's Draft Proposed Regulatory Concepts
12/2/2020	Port of San Diego	Discuss proposed facility reporting and infrastructure requirements at Port of San Diego
12/03/2020	U.S. EPA	Microsoft Teams Meeting: To discuss CARB update on Draft Proposed Regulatory Concepts and discuss development of a dual-certification pathway for EU Stage V Inland Waterway Engines.
12/08/2020	MXAK	Microsoft Teams Meeting: Follow up call on vessel tracking contract inquiry

Date	Stakeholder/Company	Type and Purpose of Meeting
12/09/2020	WETA/MAN Diesel	Microsoft Teams Meeting: To discuss Draft Proposed Regulatory Concepts and discuss development of a dual-certification pathway for EU Stage V Inland Waterway Engines.
12/10/2020	MXAK San Francisco Marine Exchange Marine Exchange of SoCal	Microsoft Teams Meeting: Follow up call on vessel tracking contract inquiry and obtaining monthly escort tug activity logs for RCW.
12/11/2020	CPUC	Microsoft Teams Meeting: CARB updates on CHC development
12/15/2020	WETA	Microsoft Teams Meeting: To discuss Draft Proposed Regulatory Concepts WETA Fleet compliance costs, timelines, and Alternative Compliance Plan
12/17/2020	Switch Maritime and BAAQMD	Phone Conference Call: To discuss Water-Go-Round hydrogen ferry project update
12/17/2020	Port of Long Beach ZANZEFF/START Project	Phone Call: ZANZEFF project update for CHC related projects
12/17/2020	Crowley Maritime	Microsoft Teams Meeting: Follow up meeting to discuss Draft Proposed Regulatory Concepts and ATB compliance costs
12/18/2020	Aurora Marine Design	Discuss pathways to meeting proposed Tier 4 + DPF performance standards for ferries and other vessels
1/6/2021	ML Power Systems	Discuss possible Original Equipment Manufacturer (OEM) solutions to Tier 4 + DPF performance standards
1/8/2021	California Cleaner Freight Coalition (CCFC)	Discussion of regulatory strategies and updates with several Non-Governmental Organizations (NGO) and environmental justice organizations
1/13/2021	USCG	Coordination and discussion of Proposed Amendments
1/14/2021	SAC and Golden Gate Fisherman's Association (GGFA)	Discussion of requirements for CPFVs under Proposed Amendments
1/15/2021	CPUC	Coordination on CHC regulatory development on ferries vessel common carrier (VCC) requirements
1/27/2021	Crowley Maritime	Microsoft Teams Meeting: Discuss Crowley's vision or suggestions on reducing emissions from the tug and towboat sector by transitioning to zero-emissions

Date	Stakeholder/Company	Type and Purpose of Meeting
1/27/2021	MTU	Discussion of PEMS test results collected under contract 18TTD005
2/2/2021	Neste	Microsoft Teams Meeting: Discuss RD availability, transport, and use in marine vessels.
2/3/2021	Red and White Fleet	Microsoft Teams Meeting: Touch base on R&W's experience with using RD fuel.
2/10/2021	ML Power Systems	Discuss possible OEM solutions to Tier 4 + DPF performance standards
2/16/2021	Diesel Direct	Microsoft Teams Meeting: Discuss RD availability, transport, and use in marine vessels.
2/17/2021	Crowley	Discussion of zero-emission ship assist and escort tug vessel opportunities
2/25/2021	Peacock Piper	Discussion of regulatory compliance for the Marine Spill Response Corporation (MSRC)
2/26/2021	Switch Maritime	Discussion of the SeaChange ferry project costs
3/2/2021	Washington State Ferries	Discussion of Washington State Ferry's zero-emission plans and approaches to infrastructure to support fueling for electric vessel operations
3/10/2021	NRDC	Discussion of opportunities to reduce emissions from CHC
3/12/2021	CCFC	Discussion of regulatory strategies and updates with several NGOs and environmental justice organizations
3/12/2021	CPUC	Coordination on CHC regulatory development on ferries VCC requirements
3/17/2021	CleanAir Grant Services	Discussion of draft regulatory language posted in September 2020
3/25/2021	U.S. EPA	Discussion of CHC amendments and coordination with U.S. EPA on federal marine efforts
4/5/2021	Hornblower	Microsoft Teams Meeting: Discuss Draft CHC Reg. language.
4/6/2021	Crowley	Microsoft Teams Meeting: Comments of Crowley Maritime Corporation to Proposed Amendments to the Regulation

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4/7/2021	U.S. EPA/Engine Manufacturers Association/USCG	Microsoft Teams Meeting: Discussion of Proposed Amendments.
4/7/2021	Palmer Johnson Power Systems	Discussion of marine hybrid technology and applicability for the Proposed Amendments
4/8/2021	Marine Preservation Association	Phone Call: Discussion of Proposed Amendments
4/9/2021	CPUC	Coordination on CHC regulatory development on ferries VCC requirements
4/9/2021	WETA	Discussion of Proposed Amendments and input received from WETA as a ferry operator
4/13/2021	National Response Corporation	Phone Call: Discussion of Proposed Amendments
4/14/2021	Pacific Environment	Microsoft Teams Meeting: Discussion of Proposed Amendments pertaining to zero emission technology requirements.
4/14/2021	Ports of Los Angeles and Long Beach	Discussion of many regulatory topics at CARB, including for CHC the newly proposed facility requirements
4/14/2021	WETA	Discussion of Proposed Amendments and input received from WETA as a ferry operator
4/16/2021	Peacock Piper (Representing Marine Spill Response Corporation)	Microsoft Teams Meeting: Discussion of Proposed Amendments pertaining to requirements for oil spill response organizations.
4/19/2021	Neste	Microsoft Teams Meeting: Discuss RD warranty concerns.
4/20/2021	San Francisco Bar Pilots	Microsoft Teams Meeting: Discussion of Proposed Amendments pertaining to requirements for pilot vessels.
4/29/2021	Peacock Piper and Marine Spill Response Corporation	Microsoft Teams Meeting: Discussion of Proposed Amendments pertaining to requirements for oil spill response organizations.
5/18/2021	CDFW OSPR	Microsoft Teams Meeting: Discussion of Proposed Amendments pertaining to requirements for oil spill response organizations.

Date	Stakeholder/Company	Type and Purpose of Meeting
5/19/2021	Sustainable Supply Chain Advisory Committee	Discussion, among other topics, of the Proposed Amendments
5/25/2021	California Strategies and Advocacy on behalf of Hornblower	Microsoft Teams Meeting: Discuss the Proposed Amendments.
5/26/2021	Wind + Wing Technology	Discussion of technological approaches and solutions for using wind power to reduce emissions from CHC operations
5/26/2021	WETA	Discussion of funding sources and restrictions under proposed Alternative Control of Emissions (ACE) concepts
6/11/2021	CCFC	Discussion of regulatory strategies and updates with several NGOs and environmental justice organizations
6/11/2021	CPUC	Coordination on CHC regulatory development on ferries VCC requirements
6/14/2021	Red Black and Green Environmental Justice Coalition	Discussion of health impacts from port and CHC operations at Port of West Sacramento
6/20/2021	Peacock Piper and Marine Spill Response Corporation	Discussion of Proposed Amendments on oil spill response organizations
6/25/2021	PMSA, Western States Petroleum Association, and San Francisco Bar Pilots	Discussion of potential ACE plans for San Francisco Bar Pilots under Proposed Amendments