November 6, 2019

Clerk's Office
California Air Resources Board (CARB)
1001 "I" Street
Sacramento, CA 95814

Subj: Comments on Proposed Control Measure for Ocean-Going Vessels at Berth

To CARB Staff:

I am writing to provide commentary on the proposed timeline for the design, permitting, construction, and testing of an At-Berth Shore Based Emission Control Program for tankers at California Ports. As an Oakland, CA resident and business owner, I share CARB's desire to implement regulations that achieve real world air quality goals.

My goal in writing is to share my experience as a California marine contractor – specifically as it applies to the lengthy project timelines of most marine projects in California and the reality of how difficult it is to move quickly through the phases of marine work. Marine projects routinely face regulatory hurdles and engineering constraints not found in land-based construction. These hurdles and constraints translate into long program schedules. I believe the timeline being considered for the proposed Control Measure is unrealistically short and doesn't consider the unique nature of designing, entitling, and constructing over-water structures and facilities.

As background, I am the President and Principle owner of Power Engineering Construction Co. We are a marine contractor based in Alameda, CA. The company has been in business for 33 years and I've been with the company for 27 years. Our business focuses on building and repairing in-water structures. Our slogan is "Engineering Construction near, on, and under the water". We routinely get involved in up-front preconstruction, design, and entitlement of marine structures and systems as part of the services we offer our clients. Our customer base is diverse and includes most major oil companies, a variety of municipal clients including SFPUC, the Port of San Francisco, WETA, and a range of private business owners working along the waterfront. For a small snapshot of projects we've completed throughout California, the attached graphic **(Exhibit A)** shows our recent San Francisco waterfront projects.

The range and breadth of our marine construction experience affords a unique perspective in how long it takes for a successful project to go from concept to operation. In general, we advise clients to expect a full project timeline of 8-10 years for a standard over-water marine facility. This timeline includes work from concept, through entitlement, to construction and operation.

One can quibble with the durations of individual tasks including site studies, engineering, the CEQA process, contracting, etc. However, empirically, all but the most basic marine construction projects prove to track into an 8 to 10-year timeline. The attached spreadsheet **(Exhibit B)** shows three example projects *outside* of the marine oil terminal industry that

support this assertion. Each of these projects was considered publicly desirable, faced little opposition, and each was managed by a very motivated team. Regardless, each example project followed a decadal life cycle due to the complexity of regulatory review, the challenges of over-water design, and the limitations and work windows imposed during construction.

While the three example projects demonstrate only a small sample size, these projects provide similarities to the work required to implement an At-Berth Emission Capture program. In a sense, the example projects provide a lower bound for the anticipated project duration as none was completed in an active marine terminal. An active marine fuel terminal imposes additional safety and scheduling constraints that generally result in longer construction durations.

Also, the three projects selected as examples do not consider one key element of the proposed new regulation: issues surrounding the technical feasibility of an At-Berth Shore Based Emission Control System. The Emission Capture equipment and supporting machinery will add to the overall project timeline through both feasibility testing and extended equipment procurement. The attached spreadsheet **(Exhibit C)** shows a sampling of recent heavy over-water equipment purchases (cranes and fuel loading arms) and demonstrates the additional timeline that may be required. One can assume the required emission control equipment, or the expansion of required electrical infrastructure, will follow a similar (if not longer) procurement cycle to these example purchases.

I believe the Proposed Emission Control Measure projects at California Marine Oil Terminals will likely take more than 10 years to design, permit, and construct when one considers the added on-going operational and safety issues. I ask the CARB staff to consider proposing on a minimum 10-year timeline for design, entitlement, and construction of an At-Berth Emission Control program in California Marine Terminals. This timeline should begin once a feasibility study is completed and appropriate emission control technology is proven to be readily available.

Should you have any questions, please contact me at 415-559-0097.

Sincerely;

Power Engineering Construction Co.

David Mik
President

Enclosed:
Exhibit A – Power Engineering Construction Co. example projects.
Exhibit B - examples of three relevant marine project timelines.
Exhibit C - examples of equipment procurement and installation timelines.

POWER
ENGINEERING CONSTRUCTION CO.

WHERE WE'VE WORKED
SAN FRANCISCO WATERFRONT
USA

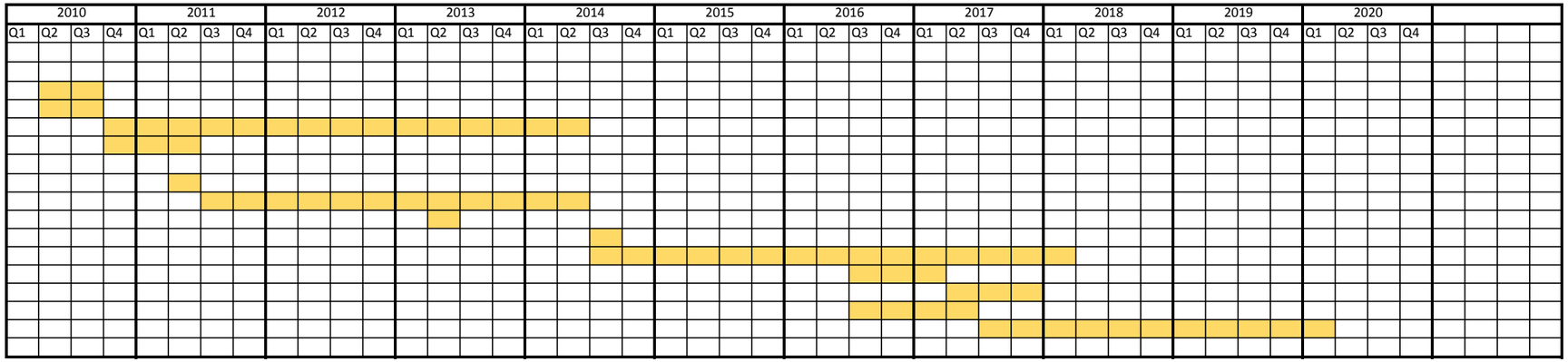
Example Marine Construction Projects in Northern California
Timeline Summary

Project Lifecycle Duration	Number of Years
WETA SF DFTX, SF, CA	10.0
SFFD Fire Station 35, SF, CA	8.5
Exploratorium Museum at Pier 15	10.5

WETA - SF Downtown Ferry Terminal, SF, CA

($76M over-water ferry terminal)

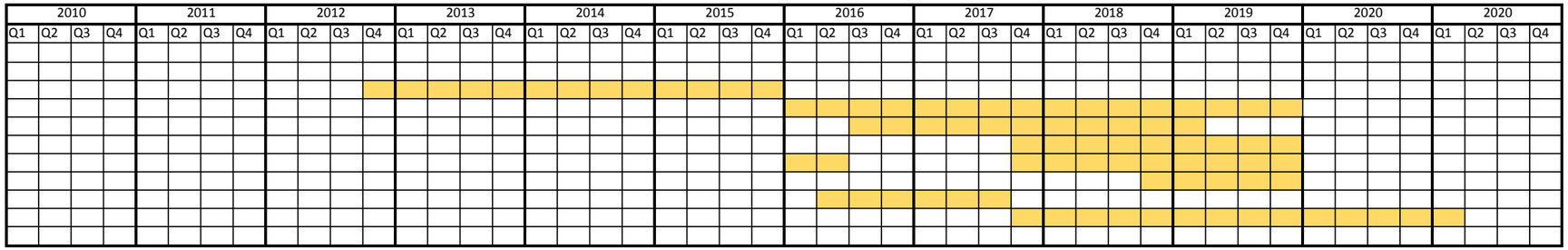
Hire Design Consultants
Hire Environmental Consultants
Design
Environmental Preparation
Environmental (NEPA/CEQA):
NOI/NOP
EIR Development
Draft EIR
Final EIR/Final Determination
Permitting
Contracting - Section 1
Construction - Section 1
Contracting - Section 2
Construction - Section 2



SFFD Fire Station 35 - New Floating Fire Station, SF, CA

($31M new-build floating fire station)

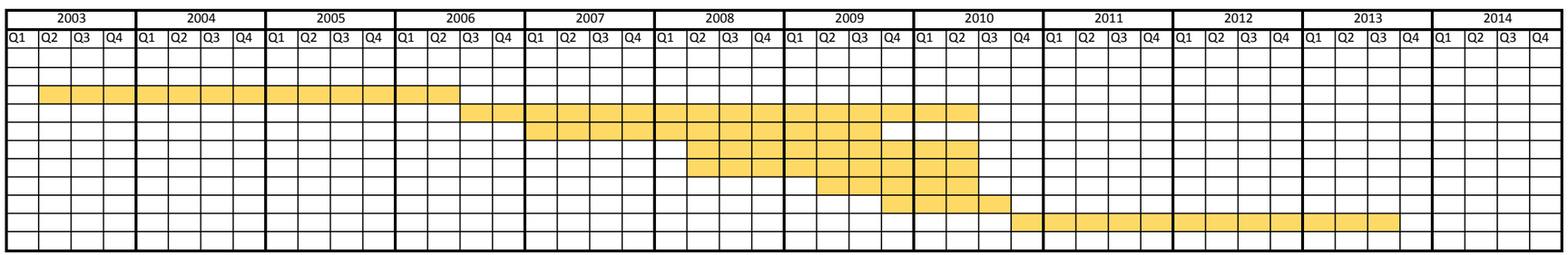
Site Determination, Massing, Funding, Initial Contact with Regulators
Regulatory/Entitlement Process
CEQA Process (Project received a Neg. Dec.)
Regulatory Approvals
Design
Permitting
Contracting
Construction



Exploratorium Museum at Pier 15, SF, CA

($51M in-water/$300M total construction of new museum space)

Site Determination, Massing, Funding, Initial Contact with Regulators
Regulatory/Entitlement Process (over 30 AHJ's involved)
CEQA Process
Regulatory Approvals
Design
Permitting
Contracting
Construction



Heavy Equipment
Procurement & Installation Duration

Large Container Cranes (source, Shanghai Zhenhua Heavy Industries/ZPMC/Liftech Consultants, Inc.)

	Average	Min	Max	
Duration for Standard Cranes:	33.0	30.0	36.0	

(for non-standard, add "several quarters" to duration)

	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Procurement/Vendor Selection												
Design												
Fabrication												
Delivery												
Installation & Testing												
(install duration is for one berth)												

Conventional Dock Mounted Marine Hydraulic Cranes (source, Rapp Marine NW, LLC - see WETA Central Bay Maintenance Terminal, Chevron RLW Berth 2, etc.)

	Average	Min	Max	
Duration for Hydraulic Cranes:	17.0	15.0	19.0	

	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Procurement/Vendor Selection												
Design												
Fabrication												
Delivery												
Installation & Testing												
(install duration is for one berth)												

Rotary or Dual Counterweight Fuel Loading Arms (source, FMC/PEC - see Chevron RLW Loading Arm Replacement Project

	Average	Min	Max	
Duration for Fuel Loading Arms:	23.5	22.0	25.0	

	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Procurement/Vendor Selection												
Design												
Fabrication												
Delivery												
Installation & Testing												
(install duration is for one berth)												