

# **Tenth Avenue Marine Terminal Beyond Compliance Environmental Enhancement Project**

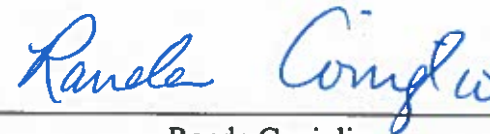
## **Project Report**

APPROVAL RECOMMENDED:




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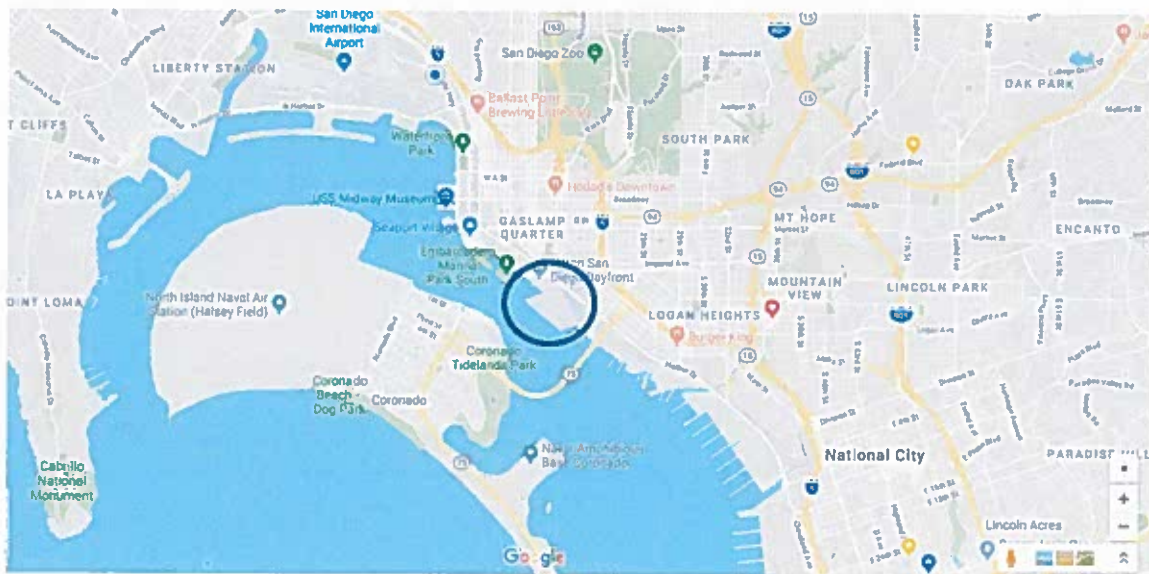
PROJECT APPROVED:



Randa Coniglio  
President and CEO  
San Diego Unified Port District

  
Date

## Vicinity Map



### 1. INTRODUCTION

#### Project Description:

The San Diego Unified Port District (District) has submitted a funding request of \$5,670,000, 70 percent of the total project cost of \$8,100,000, for the **Tenth Avenue Marine Terminal Beyond Compliance Environmental Enhancement Project**. The District intends to fund the remaining \$2,430,000 in capital costs, with all additional operating costs being paid by either the District or its customers through the tariff. This project would fund the expansion of the terminal's existing shore power system, and the purchase of a barge-based Advanced Marine Emission Control System (AMECS) bonnet system to capture and control vessel hoteling emissions while at berth, and a power needs assessment for full electrification of the remaining berths and cargo handling equipment. An expansion of the terminal's existing shore power system would serve U.S. military and U.S. Coast Guard shore power capable vessels that are not currently required to use the system under the California Air Resources Board's At-Berth Regulation. The AMECS would serve non-container vessels calling at the Tenth Avenue Marine Terminal (TAMT) and be installed on a barge. While the equipment is intended to be mobile, the barge would be primarily employed that TAMT. Finally, \$100,000 would fund an engineering study to analyze further electrification of the terminal, including power requirements to extend shore power to all berths and power electric cargo handling equipment. This project will be located at the District's omni-terminal in San Diego Bay - adjacent to downtown San Diego and the historic, culturally significant, disadvantaged neighborhood of Barrio Logan. This is a high priority for the District as it will directly

benefit the environmental community, our marine cargo terminal customers, and other regional stakeholders

<b>Project Limits</b>	County of San Diego, CALTRANS District 11	
	<b>Current Cost Estimate:</b>	<b>Escalated Cost Estimate:</b>
<b>Capital Outlay Support</b>		
<b>Capital Outlay Construction</b>	\$8,000,000	
<b>Funding Source</b>	Trade Corridor Enhancement Program (70%), District funds (30%)	
<b>Funding Year</b>	2019/2020	
<b>Type of Facility</b>	Maritime Freight Operational Improvements	
<b>Environmental Determination or Document</b>	Environmental Impact Report 12/13/2016	

## 2. RECOMMENDATION

The District has a longstanding Strategic Port agreement with the U.S. Department of Defense. Under this agreement, the District is one of 17 commercial seaports that make its terminals available for military cargo operations within 48 hours of a military contingency or national security emergency. During Strategic Port operations, military logisticians load and discharge vehicles and equipment, military household goods and other materials to and from Military Sealift Command (MSC) vessels. The District also provides service to U.S. Coast Guard vessels, many of which are shore power capable and so are included in this analysis. Increasing TAMT's "beyond compliance" shore power capability to the U.S. military and Coast Guard increases options and flexibility to military operations.

In May 2013, in recognition of significant opportunities to create cargo capacity and drive operational efficiencies, the District retained Vickerman & Associates to update its maritime business strategy specifically for TAMT. During this process, the District affirmed its commitment to preserve and enhance break bulk cargo handling capabilities, specifically to serve the aforementioned two-part role in national defense. The result was the TAMT Redevelopment Plan, which consists of a series of infrastructure projects designed to increase the terminal's capacity, attract specialty cargo, respond to market conditions, and ultimately increase economic benefit for the San Diego region. The Plan maximizes the use of TAMT's existing footprint, updates the terminal's cargo handling capacity, and consolidates "like" cargo by establishing the following three operational cargo nodes: refrigerated containers, multi-purpose break bulk, and clean dry bulk products. This project will not be used to facilitate the storage, handling, or transport of coal in bulk pursuant to Government Code Section 14525.3. The project site handles specialty cargos - refrigerated containers, breakbulk and clean bulk products.

On December 13, 2016, the District adopted the final Plan and certified its accompanying Environmental Impact Report (EIR). The Plan serves as a guide to developing maritime business at TAMT in an environmentally responsible and sustainable manner. While the EIR evaluated multiple terminal configurations and cargo capacities, the District's Board of Port Commissioners ultimately adopted a "Sustainable Terminal Capacity Alternative," which, while somewhat below maximum terminal capacity, contemplates a quadrupling of throughput at TAMT over the next 20 years, along with concurrent environmental mitigation measures that benefit the surrounding community and result in a reduction of terminal emissions below the original baseline.

This project application requests funding for two critical environmental elements that take TAMT operations beyond current environmental requirements and will facilitate additional vessel calls: an expansion of the terminal's existing shore power system for use by the U.S. military and U.S. Coast Guard vessel calls, and the purchase of a barge-based AMECS bonnet, which will meet the TAMT Redevelopment Plan's environmental requirements. Funding this application will unlock the District's ability to handle vessels and cargo not currently covered under CARB's At-Berth Regulation in an environmentally responsible way. Conversely, without deploying this technology, the District's ability to increase cargo volumes in a way that is acceptable to the community will be limited. Although not captured in this analysis, a reduction in future cargo volumes at TAMT would lead to increased local congestion as non-container cargo will be moved to local businesses such as the shipyards and construction companies by long-haul truck.

### **3. BACKGROUND**

An AMECS "bonnet system" is designed to capture emissions from non-shore power capable vessels while at berth. Dry bulk and break bulk vessels calling at TAMT would be primary users of this system. These vessel types typically operate on an inducement basis (not on a regular schedule or with predictable ports of call), are not likely to be shore power capable, and are currently not required to achieve any emissions reductions under the At-Berth Regulation. Capturing emissions from vessels dramatically reduces the negative health impacts associated with cargo operations, allowing TAMT to handle more cargo without the associated impacts to the adjacent community. Given the limited and fully constrained footprint of TAMT, a barge-based bonnet system is the best technological alternative to maximize on-terminal cargo handling area while controlling emissions.

Based on certification of the TAMT final EIR report in Dec 2016, with no emission management protocol in place, cargo throughput at TAMT will be limited at 691,418 metric tons annually. Given the negative environmental impacts and health risk associated with increased throughput to the adjacent community of Barrio Logan, throughput could not exceed this metric tonnage threshold without an emissions control system in place.

A barge-based bonnet system has an additional benefit in its mobility, and ability to be shifted to serve other vessels that call at TAMT, and at the District's other maritime terminals. This technology has been proven with container ships, and may be a viable emissions control alternative for roll-on, roll-off vessels, break bulk vessels, and cruise vessels.

The expansion of the existing shore power system will allow the District to offer shore power to capable vessels on a beyond-compliance basis. The expanded system would be immediately used by shore power capable military vessels, not currently included in the At-Berth Regulation.

More than 30 U.S. military and U.S. Coast Guard vessels called TAMT during 2016 and 2017. The military utilizes TAMT for cargo operations, and also for stores, fuel, crew changes and other layberth activities. This type of activity is ideally suited to regional ports with diverse cargo mixes; vessel layberth activities can be positioned on the terminal away from intensive cargo operations. While not specifically referenced in this application, TAMT also handles research vessels for the National Oceanic and Atmospheric Administration (NOAA) and Scripps Institution of Oceanography. These vessels also conduct similar layberth activities at TAMT.

In addition to the vessels that did call TAMT, an extended stay for a MSC Large-Medium Speed Roll-on/Roll-off (LMSR) vessel was declined because TAMT was not able to provide shore power. Berthing at TAMT would have been ideal given the close proximity of the terminal to Naval Base San Diego.

#### **4. PURPOSE AND NEED**

**Purpose:** This project application requests funding for two critical environmental elements that take TAMT operations beyond current environmental requirements: an expansion of the terminal's existing shore power system for use by the U.S. military and U.S. Coast Guard vessel calls, and the purchase of a barge-based AMECS bonnet, which will meet the TAMT Redevelopment Plan's environmental requirements. Funding this application will unlock the District's ability to handle vessels and cargo not currently covered under CARB's At-Berth Regulation in an environmentally responsible way. Based on certification of the TAMT final EIR report in Dec 2016, with no emission management protocol in place, cargo throughput at TAMT will be limited at 691,418 metric tons annually. Conversely, without deploying this technology, the District's ability to increase cargo volumes in a way that is acceptable to the community will be limited.

**Need:**

Problems to be Addressed	Changes to Baseline / Alternatives	Type of Impacts	Population Affected by Impacts	Benefits	Summary of Results (in millions 2016\$)
Emissions from bulk vessels not currently required to use shore power	Installation of bonnet system to capture vessel emissions on the approach to terminal berths	Reduction in the emission of major pollutants.	General public	Emissions reduction	\$24.9
	CO2 Emissions from operating AMECs System	CO2 emissions resulting from operation of barge-based AMECs system	General public	CO2 Emissions from Operating AMECs	(\$0.3)
	Net emissions reductions	Sum of value of emissions reductions and GHG emissions	General public	Emissions Reductions	\$24.5

Problems to be Addressed	Changes to Baseline / Alternatives	Type of Impacts	Population Affected by Impacts	Benefits	Summary of Results (In millions 2016\$)
Emissions from military and Coast Guard vessels not currently using shore power	Installation of shore power system capable of accommodating these vessels	Reduction in the emission of major pollutants.	General public	Emissions reduction	\$7.0M (Scenario 2)

**6. CONSIDERATIONS REQUIRING DISCUSSION**

None

**7. OTHER CONSIDERATIONS AS APPROPRIATE**

None

**8. FUNDING, PROGRAMMING AND ESTIMATE****Funding**

Funding Source	Capital Costs	Operation & Maintenance Costs	Total Project Cost	Percent of Capital Cost Funded by Source	Percent of Total Cost Funded by Source
Federal	-	-		0%	0%
State	\$5,670,000	-	\$5,670,000	70%	35%
Local	\$2,430,000	-	\$2,430,000	30%	15%
Mix of Local & Private	-	\$8,261,067	\$8,261,067	0%	50%
<b>TOTAL</b>	<b>\$8,100,000</b>	<b>\$8,261,067</b>	<b>\$16,361,067</b>	<b>100%</b>	<b>100%</b>

Programming

Fund Source	Fiscal Year Estimate								
TCEP	Prior	14/15	15/16	16/17	17/18	18/19	19/20	Future	Total
Component	In thousands of dollars (\$1,000)								
PA&ED Support									
PS&E Support									
Right-of-Way Support									
Construction Support									
Right-of-Way									
Construction							\$5.6M		
Total									

Fund Source	Fiscal Year Estimate								
District	Prior	14/15	15/16	16/17	17/18	18/19	19/20	Future	Total
Component	In thousands of dollars (\$1,000)								
PA&ED Support									
PS&E Support									
Right-of-Way Support									
Construction Support									
Right-of-Way									
Construction							\$2.4M		
Total									

Estimate

The District has determined that the total capital cost of the requested barge-based bonnet system is \$7,000,000, and the cost of the shore power expansion is \$1,100,000 for (\$1,000,000 capital and \$100,000 in planning). This funding request is for \$5,670,000, with the remaining \$2,430,000 to be funded by the District. The requested funding will be used towards the purchase and deployment of the bonnet system, and the expansion of the existing shore power system. Any funding in excess of this request will be funded by the District, or its stakeholders, as will all operational costs. While this project is a priority for the District, no funding is currently budgeted; the funding presented in this grant opportunity is allowing this project to be advanced ahead of anticipated cargo volume growth. This funding request is for FY19/20, therefore no escalation is included.



## 9. DELIVERY SCHEDULE

Project Milestones		Milestone Date (Month/Day/Year)	Milestone Designation (Target/Actual)
PROGRAM PROJECT	M015		
BEGIN ENVIRONMENTAL	M020	01/02/2015	
NOTICE OF PREPARATION (NOP)	M030	03/12/2015	
PA & ED	M200	12/13/16	
PROJECT PS&E	M380	10/15/18	
READY TO LIST	M460		
AWARD	M495		
APPROVE CONTRACT	M500		
CONTRACT ACCEPTANCE	M600	12/01/19	
END PROJECT EXPENDITURES	M800	12/31/22	
FINAL PROJECT CLOSEOUT	M900	06/30/23	

## 10. RISKS

The District has identified this as a low-risk project. Shore power systems are widely in use at California ports, and the existing system at TAMT is operating well. Bonnet systems are currently in use at California's large ports, and have been approved as a shore power alternative for container vessels calling in California. The District is proposing using the same technology, and deploying it in a new environment: at a medium-sized California port, with vessels that carry clean bulk and breakbulk cargos. While this technology would be primarily deployed at TAMT, the barge creates a mobile platform that can be moved to the District's two other maritime terminals (National City Marine Terminal, or the District's Cruise Ship Terminal) to serve vessels, should the need arise. This element expands the benefits of this project beyond those outlined in this application.

Components of the existing shore power system were overbuilt at the time of installation, with the expectation that eventually the system would need to be expanded. The existing substation has sufficient capacity to power a second shore power plug adjacent to the existing powered berth. The conduit and vaults to support a second plug are in place and ready to accept new infrastructure to power berth 10/3-4.

The shore power expansion to berth 10/3-4 has been fully designed. The project outlined below includes an update to the existing design, validation of the required components, and sufficient funding to evaluate power requirements for future electrification of the remaining berths and cargo handling equipment. The design phase will also include a validation that the project aligns with the TAMT Redevelopment Plan EIR, and is sufficient to advance the mitigation requirements contained in that plan. The project schedule, outlined below, considers funding beginning in FY19, and therefore no escalation is included.



## 11. EXTERNAL AGENCY COORDINATION

The Project requires the following coordination:

San Diego Association of Governments (SANDAG)  
 San Diego Air Pollution Control District (SDAPCD)  
 California Air Resources Board (ARB)  
 Potential bulk, breakbulk, military and general cargo customers  
 Other Community Stakeholders

## 12. PROJECT REVIEWS

Scoping team field review *	_____	Date _____
Scoping team field review attendance roster attached.		
District Program Advisor _____	<i>Enter Name</i>	Date _____
Headquarters Project Delivery Coordinator _____	<i>Enter Name</i>	Date _____
Project Manager _____	<i>Enter Name</i>	Date _____
District Safety Review _____		Date _____
Constructability Review _____		Date _____
Other _____		Date _____

*\*Required only if the project report purpose is to request programming and for project approval*

## 13. PROJECT PERSONNEL

Joel Valenzuela, Director, Maritime	619-686-6387
Dan Valentine, Maritime Operations Manager	619-686-6371
Aimee Heim, Grants and Policy Manager	619-686-6390
Cynthia Mertes, Grants Administrator	619-686-6426

## 14. ATTACHMENTS (Number of Pages)

*List attachments with the number of pages, such as:*

- A. Location map (1)
- B. TAMT Redevelopment Plan and Demolition and Initial Rail Component EIR  
 Volume I is located at this website:  
<https://pantheonstorage.blob.core.windows.net/ceqa/Tenth-Avenue-Marine-Terminal-Redevelopment-Plan-and-Demolition-and-Initial-Rail-Component-Draft-EIR-Volume-I.pdf>



0 4000 ft 0 1 km

10.8 Depths in Meters



TUJANA, MEXICO 8 km