

**THE NORTHWEST SEAPORT ALLIANCE**  
**MEMORANDUM**

**MANAGING MEMBERS**  
**ACTION ITEM**

**Item No.** 9A  
**Date of Meeting** December 7, 2021

**DATE:** November 22, 2021

**TO:** Managing Members

**FROM:** John Wolfe, CEO

**Sponsor:** Tong Zhu, Chief Commercial & Strategy Officer

**Project Manager:** Tim Leonard, Capital Project Manager, POS

**SUBJECT:** T-30 Central Substation Replacement Project – Construction Authorization

**A. ACTION REQUESTED**

As referenced in NWSA Resolution No. 2020-02, Exhibit A, Delegation of Authority Master Policy, Paragraph 8.c.iii., states project costs exceeding \$300,000 require approval from Managing Members.

Request construction authorization in the amount \$3,400,000, for a total authorized amount of \$6,200,000, for work associated with the T-30 Central Substation Replacement, Master Identification Nos. U00660 (Capital) and U00661 (Expense).

**B. SYNOPSIS**

As previously presented as part of the design funding request approved by the Managing Members on April 6, 2021, the Terminal 30 Central Substation failed and caused a power outage to a significant portion of the Terminal 30-yard (including refrigerated containers; T-28 M&R shop, Port of Seattle (POS) police station building, guard shack, yard lighting, and other miscellaneous infrastructure elements). General repairs to the substation were determined to be infeasible due to the age of the equipment and degree of damage incurred as a result of the failure event. Rental diesel generators were immediately procured, and power was restored to the terminal on December 1, 2020.

A Declaration of Emergency was subsequently issued by the NWSA on December 8, 2020, and a project was begun to enable staff to secure a longer-term temporary generator procurement, hire a Contractor to perform a root cause analysis of the substation's failure, and perform the planning necessary to determine a long-term solution in replacing the substation.

Additionally, the NWSA commenced discussions with the tenant, SSAT, to determine financial responsibility relative to this substation failure. The NWSA and the tenant have not yet come to agreement on the financial responsibility for the replacement of the substation. Discussions

will continue to determine financial responsibility, but permanent power needs to be restored to the terminal while these discussions continue.

Since the design funding approval, staff has completed the design, permitting, procurement, and installation of a temporary substation to replace the generators and provide interim power until a permanent substation can be completed by 2023; and completed the design, SEPA process, and preparation of bid documents for the construction of a permanent replacement substation. This construction funding request will enable the construction of a permanent replacement substation and subsequent termination of the temporary substation equipment rental.

## **C. BACKGROUND**

The purpose of the Terminal 30 Central Substation project has been to restore interim electrical power to the terminal, lost due to the Central Substation failure, as well as implement a long-term solution by replacing the damaged electrical equipment with a new substation. This request is to complete the final phase (#4) listed below: the construction of a replacement substation to restore full permanent power to Terminal 30. All actions required as part of this electrical power restoration effort have been, and will continue to be, implemented in coordination with SSAT to ensure that operational disruptions are minimized to the extent possible.

### **1. Temporary Generators – COMPLETED**

A new leased diesel generators procurement was executed through the POS in January 2021 to secure the necessary temporary generators, including all required maintenance services, to provide temporary power to T30 and enable full tenant operations. This procurement led to a contract at a more competitive cost than the initial emergency procurement completed by POS Maritime Maintenance. SSAT fueled the generators at their cost and POS staff performed coordination with the vendor (Herc Rentals) and on-site assistance as required. Additionally, rented diesel air compressor equipment was temporarily secured by POS for SSAT's use to reduce the total electrical load required in the T-28 M&R Building's shop. The need for temporary diesel generators has now been alleviated by the installation of a temporary substation (see #3 below) and all generators were disconnected and removed from T-30 on 9/02/21. All costs associated with this temporary power effort have been charged against the expense project.

### **2. Substation Failure Root Cause Analysis – COMPLETED**

Western Electrical Services, an electrical contractor, performed an on-site analysis of the failed Terminal 30 Central Substation's equipment, including a determination of the root cause of failure, and testing of the associated infrastructure elements for future ongoing use. Results of this analysis have been factored into the design of the permanent substation replacement. The analysis determined that the failure was due to lack of ongoing maintenance.

### **3. Temporary Substation – COMPLETED (and currently In operation)**

The temporary substation is an expense project cost, and its installation has now alleviated the need for leased diesel generators. This temporary power source is both

less expensive and more reliable than the prior generators as it is connected to Seattle City Light's power feed. It consists of enclosed electrical switchgear that is located adjacent to the existing Central Substation and will continue to provide the power required at Terminal 30 until a permanent replacement substation is constructed. Required on-site infrastructure improvements (electrical cable replacement, conduit trenching, protective barriers/fencing, etc.) were constructed by Port Construction Services, with assistance by POS Maintenance, and the power feed reconnection was completed by Seattle City Light (SCL).

#### 4. Permanent Substation Replacement

POS staff have now completed the design, SEPA review process, and the construction bid documents for the proposed replacement T-30 Central substation. The new substation will provide power to the same Terminal 30 infrastructure elements as the prior substation, but the completed design includes an upgrade of the substation's electrical medium voltage equipment to 15 KV from the prior substation's 5 KV capacity. This reserve capacity increase, estimated to be an additional incremental construction cost of approximately \$30,000, will provide electrical capacity for potential future overall Terminal 30 electrical infrastructure system upgrades, including shorepower.

This authorization request is for the construction of the permanent substation. Construction of the replacement substation is anticipated to be completed by Q1 2023, but certain schedule elements, such as issuance of City of Seattle permits and the substation equipment procurement (both to be completed by the Contractor) are subject to ongoing COVID related risks.

#### ***Scope of Work***

The remaining project effort, the construction of a permanent substation replacement, includes the following major scope of work elements:

##### Permanent Substation Replacement

- Construction bidding and award (POS)
- Electrical and construction permits procurement (Contractor)
- Substation equipment procurement (Contractor)
- On-site substation related construction and installation of new electrical equipment (Contractor)
- Permanent substation electrical power connection and temporary substation power disconnection (Contractor, POS, and SCL)

### **Schedule**

Major temporary and permanent power milestones:

<b>Activity</b>	<b>Timeframe</b>
Temporary substation design completed	March 2021
Temporary substation construction completed and reconnected to SCL power feed	Sept 2021
Permanent substation design completed	Nov 2021
Permanent substation construction authorization	Dec 2021
Permanent substation construction completion	Feb 2023

### **Proposed Replacement Substation Construction Dates**

Advertise for Bids	December 30, 2021
Open Bids	January 31, 2022
Notice to Proceed	April 29, 2022
Final Completion	February 28, 2023

## **D. FINANCIAL IMPLICATIONS**

### **U00661 Expense Project**

	<b>This Request</b>	<b>Estimated Total Project Cost</b>	<b>Cost to Date</b>	<b>Estimated Remaining Cost</b>
Temporary Generators Rental & Coordination	\$0	\$910,000	\$910,000	\$0
Temporary Substation Design & Construction	\$0	\$550,000	\$430,000	\$120,000
Temporary Substation Equipment Rental	\$0	\$390,000	\$70,000	\$320,000
<b>Total</b>	<b>\$0</b>	<b>\$1,850,000</b>	<b>\$1,410,000</b>	<b>\$440,000</b>

**U00660 Capital Project**

	<b>This Request</b>	<b>Estimated Total Project Cost</b>	<b>Cost to Date</b>	<b>Estimated Remaining Cost</b>
Substation Failure Analysis	\$0	\$15,000	\$15,000	\$0
Permanent Substation Design & Permitting	\$0	\$350,000	\$245,000	\$105,000
Permanent Substation Construction	\$3,400,000	\$3,985,000	\$0	\$3,985,000
<b>Total</b>	<b>\$3,400,000</b>	<b>\$4,350,000</b>	<b>\$260,000</b>	<b>\$4,090,000</b>

***Source of Funds***

The current Capital Investment Plan (CIP) allocates \$4,350,000 for U00660 substation replacement (capital) and \$1,850,000 for U00661 temporary power (expense). Operating expenses associated with this project will be funded through NWSA operating cash generated by normal operations. Capital investments will be funded by the home ports through the normal capital funding process.

***Financial Impact***

Project costs for U00660 (capital) will be capitalized and depreciated over an estimated useful life of 50 years, resulting in annual depreciation expense of approximately \$87,000. Project costs for U00661 (expense) will be expensed as incurred.

T-30 provides over \$9.3 million in revenue to the NWSA annually. Replacement of the failed substation is required to maintain that level of revenue. The 2021 Forecast/2022 Budget included expenses associated with the temporary power of \$700,000 in 2021 and \$200,000 in 2022. The budget also included \$87,000 per year in depreciation starting January 2023.

**E. ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS**

Alternative 1) Continue to lease the temporary substation equipment on a long-term basis and delay the construction of a new permanent substation. This alternative is not feasible as the temporary substation was designed and permitted to meet short-term power needs only and, as such, does not include the higher degree of electrical equipment and associated infrastructure improvements, including metering capability, required by SCL and SDCI for a long-term substation. Accordingly, the temporary substation equipment was procured under a limited duration contract (at a monthly rate of approximately \$16,200) for a maximum lease period of thirty (30) months only.

Alternative 1 is not recommended.

Alternative 2) Construct a new permanent substation as outlined in the request. This provides a less costly, more reliable power solution and will achieve the best long-term solution to meet the terminal's power infrastructure requirements.

**Alternative 2 is the recommended course.**

**F. ENVIRONMENTAL IMPACTS/REVIEW**

Permitting: A SEPA review has been completed and a Determination of Non-significance has been published. City of Seattle Construction and Electrical permits will be required and will be obtained by the Contractor.

Remediation: N/A

Stormwater: A stormwater review will be required as part of the City's Construction permit review process due to the proposed ground disturbance area amount exceeding the minimum code threshold.

Air Quality: N/A

**G. ATTACHMENTS TO THIS REQUEST**

- Computer slide presentation.

**H. PREVIOUS ACTIONS OR BRIEFINGS**

<u>Date</u>	<u>Action</u>	<u>Amount</u>
December 8, 2020	Declaration of Emergency	\$1,000,000
February 2, 2021	Project Status Briefing	\$0
April 6, 2021	Managing Member Design Authorization	\$1,800,000
<b>TOTAL</b>		<b>\$2,800,000</b>