



GENERAL HIGH VOLTAGE SHORE CONNECTION (HVSC)* PROCEDURES

*Also known as Alternative Maritime Power (AMP)

Effective Date: 03/04/2014

Revision #: 4

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1. POLA HVSC CREW SAFETY MEETING AT TERMINAL - POLA

- Minimum of one Qualified Electrical Workers (QEW) and one Qualified Person (QP). Except as specifically noted in these procedures, POLA crew members can initiate activities prior to all members being present and the order of numbered items can be modified as appropriate to the specific event and work efficiency, provided such items can be safely undertaken. Note the tasks (bullets) within an numbered item are largely in the order that tasks should be completed.
- Follow and complete Checklist for HVSC Connection.
- Identify POLA Person-In-Charge (PIC) (must be QEW).
- Identify hazard locations (i.e. area of ship being loaded/unloaded, vehicles, forklift working around the crew, lifting, etc.).
- Verify the location of: communication equipment (i.e. walkie-talkies/channel, emergency phone numbers), e-stops, location of fire extinguishers, first aid kit.
- Verify that all crew members have the proper PPE (i.e. hard hats, gloves).
- Complete top of POLA HVSC Pre-Power Transfer Conference form.

2. HVSC SUBSTATION BREAKER DISENGAGED AND GROUNDED - POLA

- POLA PIC verify that the main breaker and feeder HVL switch for shore vault to be used is initially open and visually verify all three blades are disengaged.
- POLA PIC verify that the earth grounding switch is closed and visually verify all three blades are engaged.
- POLA PIC lock-out the earth ground switch.
- POLA PIC take meter reading from main breaker Power Logic meter and record on HVSC Pre-Power Transfer Conference form "for POLA use only" section. Have 2nd POLA crew member verify meter reading.

3. PIC PRE-POWER TRANSFER CONFERENCE – POLA PIC & SHIP PIC

- POLA PIC and Ship PIC hold HVSC Pre-Power Transfer Conference and complete and sign POLA HVSC Pre-Power Transfer Conference form.
- If the ship has not successfully transferred to and from high voltage shore power in compliance with IEC/ISO/IEEE 80005-1 procedures within the last 12-months ("No" answer to question #3 on Pre-Power Transfer Conference Form) HVSC System Safety Verification procedures and related form must be completed.
- Ship PIC provided copy of completed POLA HVSC Pre-Power Transfer Conference form.

4. CONNECTION TO VAULT ON DOCK – SHIP/SHIP DESIGNEE

- Only after items 1 thru 3 are completed, Ship PIC, or designee, lock-out ground switch.
- Lower cables from ship to shore vault (except when using barge or cruise terminal AMP mobile).

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- Ship PIC/designee, plug cables into shore vault, apply securing chains, insert Kirk key safety interlock pins, remove Kirk keys KA & KB and secure vault. POLA PIC will monitor ship cable connection to ensure use of appropriate procedures and avoid damage to equipment.
- Ship PIC/designee provides Kirks key KA & KB to POLA PIC.
- Ship PIC/designee remove lock from ground switch.

5. SUBSTATION AMP BREAKER ENGAGEMENT TO PROVIDE POWER – POLA

- POLA PIC and QP required for switching. QP will observe POLA PIC from outside the approach boundary of the feeder HVL and earth grounding switches, and be prepared for emergency response if needed.
- Only after items 1 thru 4 have been completed, POLA PIC will unlock the earth grounding switch and insert Kirk keys KA & KB.
- POLA PIC will open earth grounding switch and visually verify all three blades are disengaged.
- POLA PIC will verify that there is no backflow power from the ship by checking lamps at the feeder HVL switch.
- POLA PIC will remove Kirk key KC from earth grounding switch.
- POLA PIC will insert Kirk key KC into the feeder HVL switch and close switch. Visually verify all three blades are engaged.
- POLA PIC to ensure all within approach boundary of the feeder HVL and earth grounding switches are out of the area.
- POLA PIC confirm with Ship PIC that power is requested.
- Once everyone is removed from the area, POLA PIC activates the 60 second timer for automatic closing of breaker, or uses remote actuator switch as appropriate.
- POLA PIC confirm that power has been sent, visually at substation.
- POLA PIC confirm with Ship PIC that power has been successfully transferred.
- If ship E-stop circuit testing is requested, POLA PIC will inform Ship PIC to test and repeat below procedures until E-stop testing is complete and power is transferred for ship operations.
 - POLA PIC will reset 86 lock-out relay.
 - POLA PIC confirms with Ship PIC that power is again requested.
 - Once everyone is removed from the area, POLA PIC activates 60 second timer for automatic closing of breaker, or uses remote actuator switch as appropriate.
 - POLA PIC confirms with Ship PIC that power has been successfully transferred.
- POLA PIC close and secure substation.
- POLA PIC complete HVSC Pre-Power Transfer Conference form “for POLA use only” section, including time of successful transfer of shore power for ship operations.
- If a HVSC connection or power transfer issue is experienced, POLA PIC notify the Terminal superintendent and document on POLA HVSC Pre-Power Transfer Conference form.
- POLA PIC submit completed POLA HVSC Pre-Power Transfer Conference form and Checklist for HVSC Connection to Division 147 by end of shift.



CONSTRUCTION AND MAINTENANCE
DIVISION

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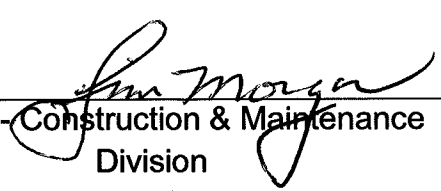
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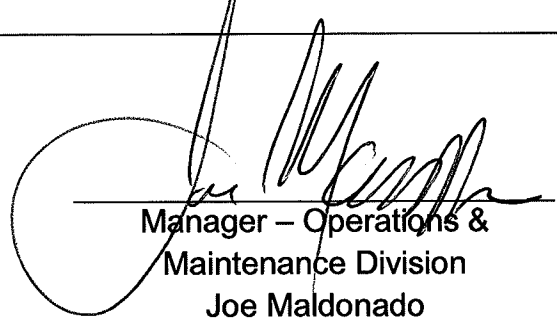
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APPROVAL:


Director - Construction & Maintenance
Division
James Morgan


Manager - Operations &
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Joe Maldonado

REVISION HISTORY

REVISION #	DATE	SECTIONS AFFECTED
0	12/04/2013	All
1	12/19/2013	(1) Added requirement to complete checklist. (3) Added reference to HVSC System safety Verification procedures. (4) Ship lock-out made mandatory. (5) Removed lamp test, as the equipment does not provide for that function. Other clarifications.
2	01/13/2014	(5) Changed order of task for checking for electrical backflow. All: Changed to bullet format.
3	01/27/2014	(4) Clarified need to monitor for equipment damage. All: Updated name of form.
4	03/04/2014	(1), (4), an (5): Clarification regarding ability to change order of numbered items and ability to proceed with some tasks prior to arrival of complete crew.

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