

BEACH AND PORT OPERATIONS

1. Introduction

This lesson provides students with information concerning beach and port operations during the arrival and assembly phase of a maritime pre-positioning force (MPF) operation. A beach off-load may be the only means of bringing maritime pre-positioning equipment/supplies (MPE/S) ashore. On the other hand, beach off-load operations may be conducted simultaneously with port operations in order to increase the overall rate of discharge when port facilities cannot accommodate the entire MPSRON or when urban congestion reduces throughput efficiency. However, while port operations enjoy a relatively stable environment that facilitates optimum discharge rates, in-stream off-load operations do not. Potential changes in weather and sea state, increased potential for cargo damage, trafficability across the beach, and lighterage performance must be considered.

2. Planning Factors Affecting Beach Area Selection

The overall consideration when selecting a beach is the throughput of MPE/S to inland destinations.

- a. Hydrography. Information provided by charts and the host nation or supported combatant commander surveys, including
 - (1) beach length
 - (2) beach configuration
 - (3) beach interruptions and obstacles
 - (4) surf characteristics. The surf zone is the area extending from outer breaker line to the limit of wave uprush on the beach (typically the five-fathom curve to mean high water mark; a fathom equals six feet).
 - (a) Plunging breaker. A breaker on which a long portion of the wave crest peaks up and then crashes violently into the preceding trough.
 - (b) Spilling breaker. A breaker with isolated patches of white water appearing along the crest before the wave rolls over.
 - (c) Surging breaker. A breaker which peaks up, instead of spilling or plunging, and surges upon the beach.
 - (5) Inshore currents. Littoral currents found within the surf zone that move left and right (parallel to the beach).
 - (6) Tidal ranges and times
 - (a) Tide, diurnal. A tide having one high water and one low water in a lunar day.
 - (b) Tide, semidiurnal. A tide having two high waters and two low waters in a lunar day.
 - (7) Nearshore and foreshore gradients. Nearshore is the area between the five-fathom curve and the mean lower low-water line (surf zone). Foreshore is the part of the shore or beach lying between the extreme low-water line and the upper limit of the normal wave action.
 - (a) MPS anchorage close to shore minimizes lighterage travel and bulk fluid pumping distances.
 - (b) Lighterage beaching and dry landing of vehicles reduces maintenance downtime.

b. Topography

- (1) Backshore slope and soil trafficability. The zone of the shore or beach lying between the foreshore and the coastline which is acted upon by the waves only during severe storms, especially when combined with exceptionally high tides (formally called the “back of the beach”)
- (2) Sufficient space for beach area facilities
- (3) Access to road network.

c. Meteorology

- (1) Effects of monsoon rainfall, blowing snow, ice, fog, and other elements
- (2) Available daylight.

3. Beach Operations Group (BOG) Task Organization Considerations

- a. The size and composition of the BOG are situation dependent. It is organized to carry out around-the-clock beach throughput operations. The nucleus organization for the BOG is the Marine Air Ground Task Force (MAGTF) combat service support element (CSSE).
- b. The BOG is configured to accomplish
 - (1) vehicle and container sorting.
 - (2) loading and transport of MPE/S.
 - (3) recovery and backloading of empty containers.
 - (4) follow-on resupply operations.
 - (5) provision of internal services, including
 - (a) communications
 - (b) data processing
 - (c) medical
 - (d) organic supply
 - (e) maintenance
 - (f) engineer
 - (g) traffic circulation
 - (h) local security
 - (i) surf reports.

4. BOG Equipment Requirements

- a. Beach markers
- b. Communications
- c. Mobile matting (MOMAT)
- d. Earth-moving equipment
- e. Rough terrain container handler (RTCH)
- f. 25-ton crane
- g. Amphibious assault fuel system (AAFS)
- h. Water purification and distribution systems
- i. Light sets and generators
- j. Habitability sets
- k. Automated information system (AIS) hardware and administrative supplies.

5. Beach Support Area Organization

Beach support area operation is similar to the general off-loading period of an amphibious operation.

- a. BOG functional areas:
 - (1) Command, control, and communications (C3)
 - (2) Maintenance and organic supply
 - (3) Messing and billeting
 - (4) Medical.
- b. Lighterage and vehicle landing points
- c. Nearshore boat lanes
- d. Ammunition and bulk fluid dumps
- e. MPE/S overflow areas
- f. Traffic lanes.

6. Port Planning Considerations

- a. Physical characteristics and layout of the port, including
 - (1) road capacities.
 - (2) traffic congestion.
 - (3) availability of real estate for overflow areas and support areas.
- b. Number of ships to be simultaneously off-loaded
- c. Available equipment
- d. Host nation support available
- e. Combat service support requirements as determined by POG personnel strength and equipment density
- f. Transfer of MPE/S directly from the ship to their final destination
- g. Fuel and ammunition transfer (should not be held in overflow areas).

7. Organization for Port Operations

- a. Port authority
 - (1) Responsibility is assumed by the commander, MPF (CMPF), when the host nation port authority is no longer functioning.
 - (2) When functioning, the CMPF designates a port liaison officer.
 - (3) Responsibilities of the port authority liaison officer include the following:
 - (a) Provide coordination between the maritime pre-positioning ship squadron and the port authority.
 - (b) Advise the port authority of cargo characteristics and off-load requirements that may affect port activities.
 - (c) Arrange for host nation support requirements:
 - 1 Environmental data, navigational aids, and harbor information
 - 2 Berths and anchorages

- 3 Tugboats and pilot services
- 4 Fire fighting services
- 5 Pierside services
- 6 Harbor security.

b. The port operations group (POG)

- (1) is task organized around the CSSE nucleus.
- (2) is responsible for the preparation of the port prior to the arrival of maritime pre-positioning ships (MPS) and the throughput of the MPE/S as the ships are off-loaded.
- (3) operates under the overall direction of the landing force support party (LFSP) and in coordination with the ship debarkation officer.
- (4) is organized for around-the-clock operations.
- (5) assumes responsibility for cargo once it is placed on the pier.
- (6) may be retained after arrival and assembly in order to off-load resupply shipping and retrograde damaged equipment.
- (7) Major tasks include the following:
 - (a) Establish overflow areas for MPE/S.
 - (b) Clear piers and overflow areas of MPE/S.
 - (c) Establish a port operations command post and communications with the LFSP, off-load control unit (OCU) and the ship debarkation officer.
 - (d) Coordinate with the port authority liaison officer for use of material handling equipment, operations and longshoreman support and dunnage.
 - (e) Operate material handling and lighting equipment.
 - (f) Assist Navy cargo handling detachments in ship off-load as directed.
 - (g) Transport MPE/S to overflow areas as necessary.
 - (h) Provide directions to MAGTF drivers detailed to move vehicles to unit assembly areas.
 - (i) Provide local security when assisted by MAGTF augmentation.
 - (j) Provide support for the POG, including billeting, messing, and administration.

8. Advantages of Port Operations

- a. Increased throughput and assembly
- b. Reduced personnel requirements
- c. Reduced potential for loss or damage of MPE/S
- d. Less susceptible to the effects of sea state and weather.

9. Potential Limitations of Port Operations

- a. Increased interface with the host nation
- b. Increased likelihood of ammunition; petroleums, oils, and lubricants (POL); and hazardous cargo handling and transportation restrictions
- c. Port congestion
- d. Civilian ship traffic
- e. Labor union requirements
- f. Increased security requirements
- g. Deployment to a port large enough to accommodate five or six MPS is unlikely.