

Executive Summary

Wargame: Extreme Cold Weather System Staging

Naval Postgraduate School

15 June 2017

1. Purpose. The purpose of conducting the Extreme Cold Weather Systems (ECWS) placement wargame is to gain situational awareness for the ideal location of placing the ECWS to support expeditionary deployment in the event of larger scale conflict. The wargame provided action officer level problem framing insight into the parameters which support the expedited deployment, dispersion, transportation, training and movement of Marines for ideal emplacement. From this intuitive development process, we note that multiple emplacement methods are available given necessary flexibility across the total force prioritization. The fastest method consists of deploying closest to the forward line of troops, surging gear issue on site, and minimal reward staging and onward integration time (RSO&I). By surging air-flow capacity, all Marines can be on site within two weeks if training and equipment issue are conducted at the home station. A hybrid method involving a number of infantry battalions receiving full cold weather training while the rest of the battalions having organic instructors will greatly reduce RSOI&I requirements.

2. Analysis background. Marine Corps extreme cold weather clothing and equipment capability requirements are based on maintaining the capacity to outfit two MEBs and two MEUs (35,000 total; 2MEUs-5K; 2MEBs-30K). The ski system is fielded to support the scout sniper platoon and one platoon per company or one company per battalion in an infantry battalion/BLT. All other Marines will be issued snowshoes for movement. The majority of current cold weather clothing and equipment is modern (fielded in the last 5 years), good quality, and common with the Army. LOGCOM Consolidated Storage Program (CSP) manages Enterprise cold weather clothing and equipment, with the exception of MCPP-N and MCMWTC for the entire force (182K). Extreme cold weather capabilities are available at Unit Issue Facilities, Special Training Allowance Pools, and MCPP-N. MCPP-N contains only extreme cold weather equipment. No tariff-sized items (e.g., boots, clothing items, etc.) are included in MCPP-N. Tariff-sized items are to be included in the fly-in-echelon.

To determine if the Marine Corps extreme cold weather equipment is sufficient and if it is positioned correctly to support these forces as they deploy we conduct a wargame. The purpose of the wargame is to build action officer level situational awareness and build the necessary information requirements to accurately answer the two key questions (sufficient to support and positioned correctly).

3. Analysis purpose and objectives.

Analysis Purpose. The analysis is designed to accomplish the following endstate: "Determine capability gaps that exist for the US Marine Corps 'Cold Weather and Extreme Cold Weather' for Northern & Eastern Europe and Northern Eastern Asia. Gaps could be training, equipping and build-up of combat power quickly to react or strike."

Analysis Objectives. Determine the following objectives

Necessary location for ECWS to support deployment of 35,000 Marines.

*Camp Pendleton, Camp Lejeune, Barstow, Okinawa, Norway (Alaska & Guam)

If the ECWS equipment set is sufficient.

The number of ECWS trained battalions are required during sustainment.

The RSO&I requirements for trained and untrained units.

4. Analysis methods. The analysis was conducted by determining an overall time delay approach for each unit. We first determined the recall period for consolidating Marines. Next we defined a unit to consist of increments of 250 (based off carrying extra gear on one commercial flight). Then we calculated time/distance calculations for movement, incorporated delays for issuing gear either at home station or forward deployed and established a stage point in Okinawa for all troop flow. To manage this visually during the wargame an excel timeline with unit deployment calculations was used. Additionally, a data collection manager recorded information from the scenario, movement data, specified decision points, and gameplay controlled parameters. Finally, a map board with stackable, color coded pieces were used to visually represent movements, issue, delay, training and transportation of units.

5. Analysis findings/recommendations. The ideal ECWS placement depends on force flow capability requirements, RSO&I requirements and throughput capacity at the issue facility. The first approach is to issue all gear at home station, establish a reception point in Okinawa and conduct a three day RSO&I package upon arrival. Upon completion, fly to final marshalling area for movement to the assembly area. Assuming roughly 14000 Marine West coast, 12000 East coast, 1 MEU deployed, 31st MEU on Okinawa and committing the closest forces first and consistent unit deployment behavior. Figure 1 shows all forces arriving at the forward line of troops by day 27. This model assumes flights patterns of 1000 per day from each location and 2000 per day from Okinawa.

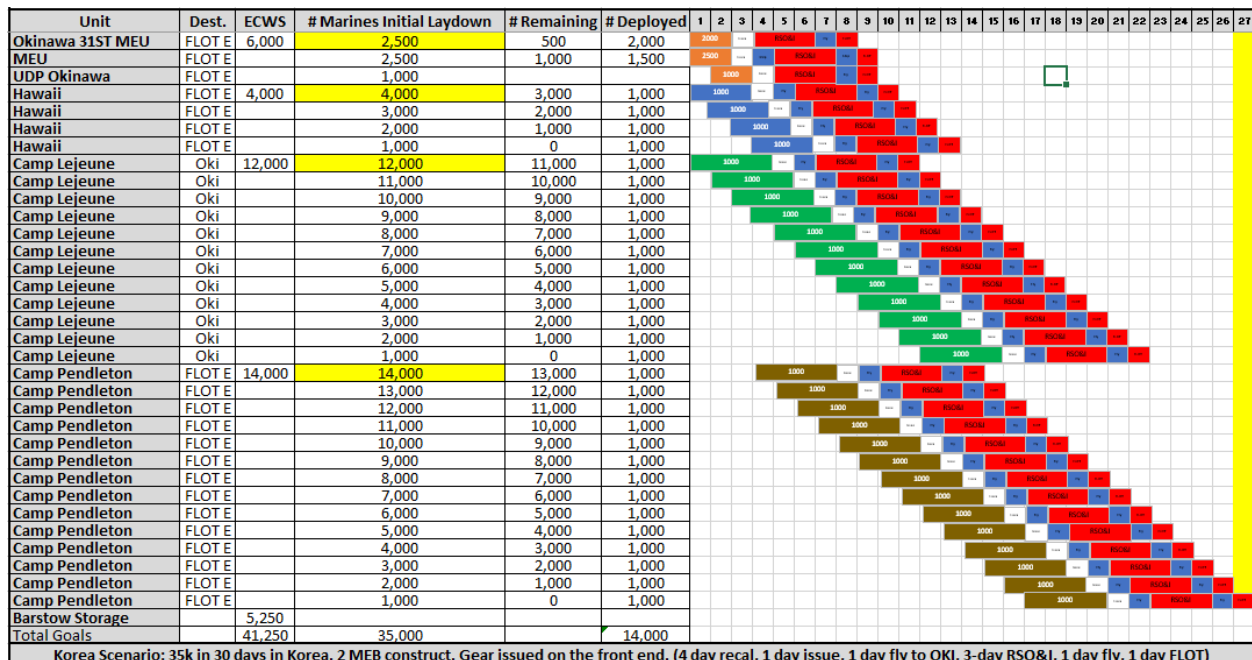


Figure 1: Force Flow through Okinawa with Three Day RSO&I Package while Flying 2,000 Marines out of Okinawa, 1,000 from each coast and Issuing 1,000 ECWS per Day