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STATISTICAL AND PROCESS ANALYSES OF THE U.S. SIXTH FLEET SHIPBOARD KEY LEADER ENGAGEMENTS

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NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

MBA PROFESSIONAL PROJECT

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December 2018

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13. ABSTRACT (maximum 200 words)

The U.S. Sixth Fleet conducts numerous multinational maritime operations, during which the involved U.S. naval vessels host a multitude of key leader engagements, costing $221,000 during FY2018. These events are financed by Official Representation Funds (ORF) and, when hosted by smaller naval ships, are particularly vulnerable to requiring rental equipment due to their lack of storage onboard. Of interest is to explore whether the ownership of this equipment is more cost effective than renting and whether or not this would improve the Navy's ability to streamline these events. The purpose of our research is two-fold: 1) to perform a statistical analysis of a buy-versus-rent model of this reception equipment, and 2) to conduct a process flow analysis of the tasks and time required to support such events. Our analysis reveals that owning is less expensive than the rental of this equipment, even for a single event. In addition, ownership results in a 50% man-hour decrease per event. As such, our recommendation is to purchase a given quantity of this equipment, store them at NAS Sigonella, and ship them as needed to host vessels. This strategy will save the U.S. Sixth Fleet between $22,000 and $48,000 annually, and if expanded to all fleets of the U.S. Navy, will save between $122,000 and $288,000 annually.

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STATISTICAL AND PROCESS ANALYSES OF THE U.S. SIXTH FLEET SHIPBOARD KEY LEADER ENGAGEMENTS

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STATISTICAL AND PROCESS ANALYSES OF THE U.S. SIXTH FLEET SHIPBOARD KEY LEADER ENGAGEMENTS

ABSTRACT

The U.S. Sixth Fleet conducts numerous multinational maritime operations, during which the involved U.S. naval vessels host a multitude of key leader engagements, costing $221,000 during FY2018. These events are financed by Official Representation Funds (ORF) and, when hosted by smaller naval ships, are particularly vulnerable to requiring rental equipment due to their lack of storage onboard. Of interest is to explore whether the ownership of this equipment is more cost effective than renting and whether or not this would improve the Navy's ability to streamline these events. The purpose of our research is two-fold: 1) to perform a statistical analysis of a buy-versus-rent model of this reception equipment, and 2) to conduct a process flow analysis of the tasks and time required to support such events. Our analysis reveals that owning is less expensive than the rental of this equipment, even for a single event. In addition, ownership results in a 50% man-hour decrease per event. As such, our recommendation is to purchase a given quantity of this equipment, store them at NAS Sigonella, and ship them as needed to host vessels. This strategy will save the U.S. Sixth Fleet between $22,000 and $48,000 annually, and if expanded to all fleets of the U.S. Navy, will save between $122,000 and $288,000 annually.

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LIST OF ACRONYMS AND ABBREVIATIONS

AFRICOM	U.S. Africa Command
AMC	Air Mobility Command
AMLEP	African Maritime Law Enforcement Partnership
AOR	Area of Responsibility
APOD	Aerial Port of Debarkation
ASW	Anti-Submarine Warfare
BALTOPS	Baltic Operations
C6F	Commander, U.S. Sixth Fleet
CG	Cruiser
CLF	Combat Logistics Force
CNA	Commander, United States Naval Forces Africa
CNIC	Commander, Navy Installations Command
CO	Commanding Officer
CONOP	Concept of Operations
COR	Contracting Officer Representative
CTF	Command Task Force
DAO	Defense Attaché Office
DCN	Document Control Number
DDG	Destroyer
DLA	Defense Logistics Agency
DoD	Department of Defense
DoN	Department of the Navy
DONAA	Department of the Navy, Assistant for Administration
EUCOM	U.S. European Command
FAD	Force Activity Designator
FDM	Funding Document Manager
FDNF/E	Forward Deployed Naval Forces, Europe
FFG	Frigate
FLC	Fleet Logistics Center
GCC	Geographical Combatant Commander

HSP	Husbanding Service Provider
IAMD	Integrated Air and Missile Defense
KO	Contracting Officer
LCC	Amphibious Command Ship
LOGREQ	Logistics Requirement
LSC	Logistics Support Center
MOA	Memorandum of Agreement
MSC	Military Sealift Command
N5	Plans and Policy Team
N51	Europe Engagements
N52	Africa Engagements Team
NAS	Naval Air Station
NDS	National Defense Strategy
NSS	National Security Strategy
OGC	Office of General Council
ORF	Official Representation Funds
PfP	Partnership for Peace
POL	Petroleum, Oil, and Lubricants
PUK	Pack Up Kit
RAS	Replenishment at Sea
SCC	Service Component Commander
SDDC	Surface Deployment and Distribution Command
SOP	Standard Operating Procedure
TAC	Transportation Account Code
TP	Transportation Priority
UND	Urgency of Need

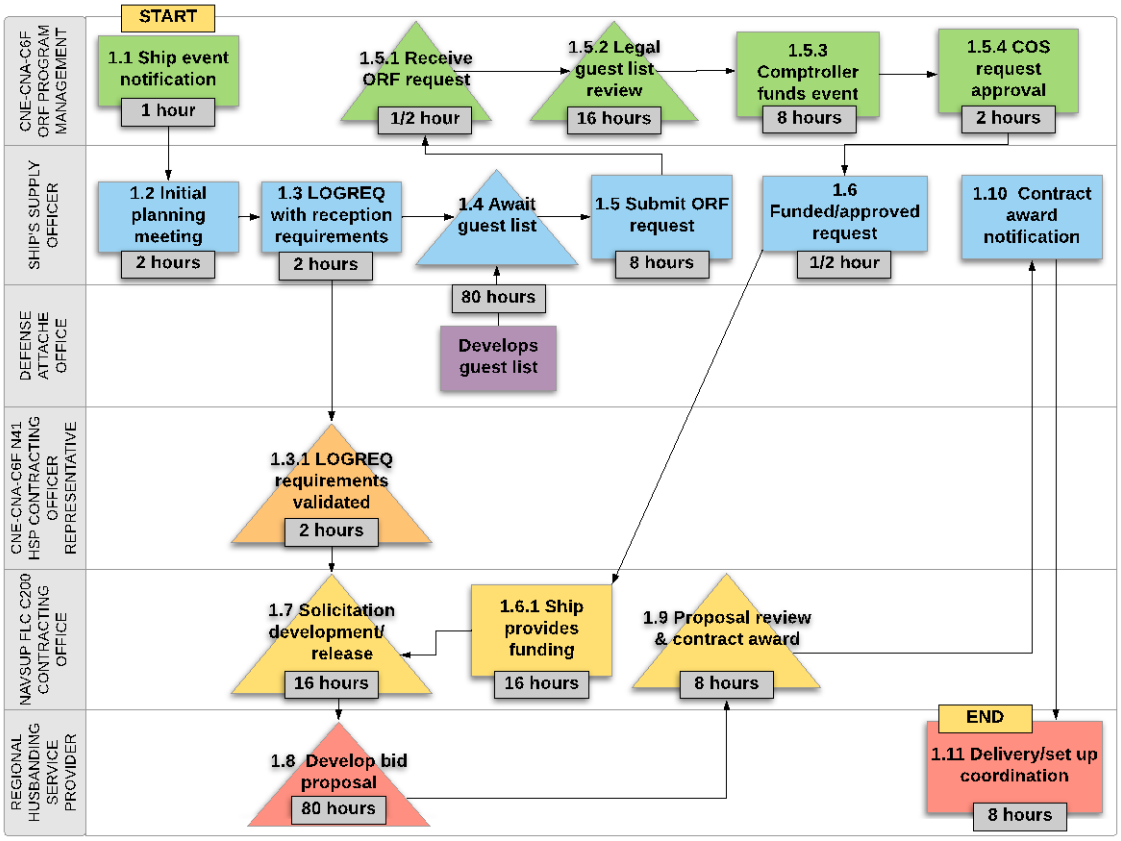
EXECUTIVE SUMMARY

The U.S. military has historically held maritime security cooperation receptions and luncheons, which take place all over the world and throughout all the Navy's fleets. We focus on the U.S. Sixth Fleet (CNE-CNA-C6F) which includes Europe, Africa, the Mediterranean and surrounding seas. Official Representation Funds (ORF) are used to host these official events, many of which are held on naval vessels. When smaller ships such as cruisers (CG) and destroyers (DDG) are tasked with hosting these events, they often do not have the necessary equipment onboard. Due to the lack of equipment, many Supply Officers have no choice but to rent equipment from the local economy, which can prove to be a time consuming and costly process. We intend to analyze the costs and inefficiencies of the ORF process relating to the procurement of rental equipment, and explore whether or not standardized event equipment and process simplification would improve the Navy's ability to provide a more efficient and uniform event. Various Department of Defense (DoD) instructions governing ORF, as well as U.S. security and defense strategies were examined in order to form a framework to understand the importance of multinational maritime operations. Additionally, we explored the various multinational maritime exercises which take place in the CNE-CNA-C6F AOR.

Of the five categories of ORF events, the largest spending category is ORF receptions, which represent 75% of overall ORF expenses (S. Cuesta, email to authors, September 21, 2018). The receptions can be further decomposed into carrier-hosted, shore-based, and finally the FFG/DDG/CG/LCC-hosted receptions (small ships) which alone, make up 56% of overall annual ORF expenses (S. Cuesta, email to authors, September 21, 2018). As the variable of interest is the cost of rental equipment, we narrowed the scope of our research to only the subpopulation of small ship receptions spanning FY2014 through FY2018. From this subpopulation of 121 small ship receptions, a sample group of 39 events were selected at random by CNE-CNA-C6F and analyzed by extracting data from the provided ORF Final Expense Packages. Approximately 50% of our sample data set from our subpopulation did not use ORF for rental equipment, which we exploited by segregating the events into two data sets- small ship receptions with rentals, and those

without. Descriptive statistics produced a per-person, mean cost of $32.64 for small ship receptions requiring rental equipment, while the mean cost of an event without rentals was nearly 40% less at $19.55 per person (S. Cuesta, email to authors, May 18, 2018). A t-test of two samples assuming unequal variances resulted in compelling evidence to suggest that the cost of an ORF reception without rental equipment is $5 less (per person) than an equivalent reception with rentals. We further tested our hypothesis by developing an interval estimate which confirmed that ORF events requiring rental equipment cost on average, between $3.64 and $22.54 more per person, per event. These results are congruent with the t-test performed in the analysis.

The process analysis portion of our research focuses on ORF equipment rentals as an Operations Management problem. We identify the major entities involved in the ORF process and the number of man-hours spent on each task. Figure ES-1 is a process flow chart that shows each step. The corresponding number of man-hours required for each task sums to 250 man-hours per event.



Adapted from CNE-CNA-C6F (2017c) and S. Cuesta, email to authors, September 21, 2018.

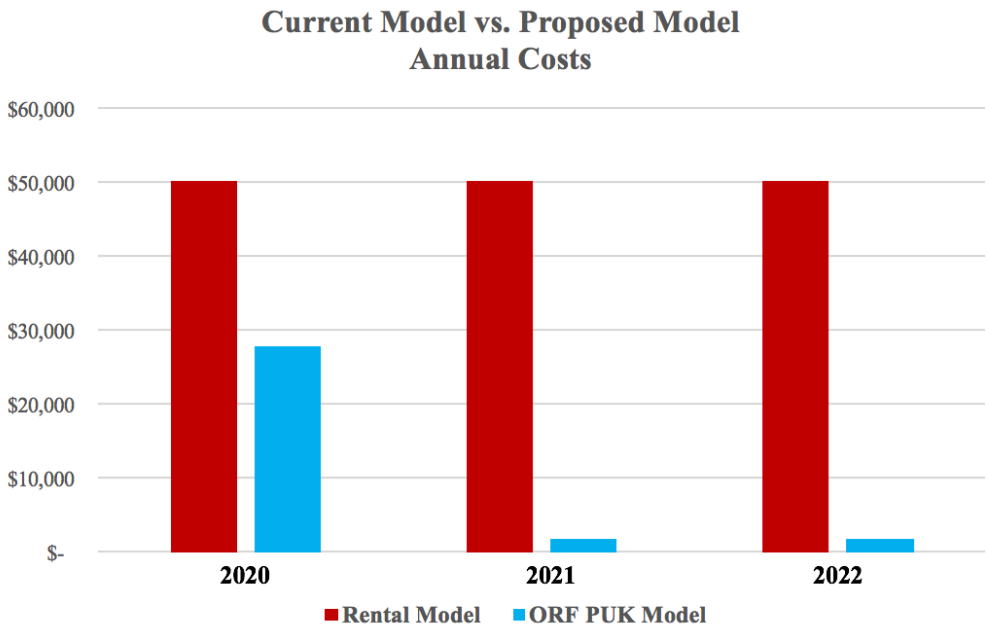
Figure ES-1. ORF Process Flow Chart

The quest to find alternatives to the current model was partially inspired by the aviation community's model, whereby helicopter detachments deploy with a large kit of potentially needed replacement parts. The ORF Pack-Up Kit (PUK) we propose to implement would include commonly rented items packed in pelican case-style containers. This would eliminate the necessity to rent equipment for ORF events, which we believe would lead to cost and man-hour efficiencies.

Logistics planning factors including proposed locations, storage/cargo handling, and transportation were considered. Rota, Sigonella, Souda Bay and Naples were examined as potential logistics hubs for the proposed ORF PUKs. The costs of transportation, storage, and maintenance are also addressed, however our research found that the associated marginal costs were negligible. In order to estimate the price of a single ORF PUK, we

conducted Internet market research for eight specific items: Enclosed Tent, (6) Rectangular Tables and tablecloths, (8) Cocktail Tables and tablecloths, LED Lighting, (2) Heaters and a Portable Bar. These items are not commonly found on U.S. naval warships, are collapsible and easily crate-able. The price of a single PUK was calculated by identifying four sources of procurement and calculating the average total cost of each item, in addition to pricing two oversized pelican case-type shipping cases. The total of a single ORF PUK (including shipping containers) is estimated to cost $5,583.

With an average of 24 small ship ORF receptions occurring annually and 50% of those requiring rentals, we propose a total of five ORF PUKs would meet demand in the AOR. This initial outlay would cost the U.S. Navy $27,915 (a total of five PUKs at $5,583 apiece) and would adequately cover the number of ships and events in theatre. We estimate a useful life of all PUK items (including the case) to be roughly three years, with the exception of tablecloths which should be replaced annually. Utilizing historical rental prices, twelve events costing $4,184 in rental equipment equates to $50,204 annually in rental equipment. The cost comparison between the current rental model and the proposed ORF PUK model are depicted in Figure ES-2, of which the proposed model nets savings of $118,966 over a three-year period.



Adapted from sources listed in Appendix E and S. Cuesta, email to authors, September 21, 2018.

Figure ES-2. Annual Cost Comparison of Current Model (Rental Equipment) vs. Proposed ORF PUK Model

Finally, the man-hours necessitated by the current ORF process (including rentals) is compared to man-hour estimates for the proposed ORF PUK model. It becomes readily apparent that by removing the need for rental equipment, nearly 130 man-hours in contracting-related activities are eliminated from the process. This translates to a 50% improvement in efficiency per event.

As the proposed ORF PUK model is not only more cost effective than the current model, but also more efficient in terms of man-hours, it is believed that the ORF PUK should be adopted by CNE-CNA-C6F. We propose a trial run with two PUK prototypes prepositioned at NAS Sigonella starting in FY2020, allowing contracting entities ample time to source and procure the needed PUK items. Additionally, we recommend a Memorandum of Agreement (MOA) be created between Naval Supply Systems Command (NAVSUP) and NAS Sigonella to ensure continuity of care of the PUKs and a clear delineation of accountability and responsibility. With the goal of future implementation, we hope to forward our findings to CNE-CNA-C6F as well as NAVSUP Headquarters.

Based on the analyzed logistical capacities and capabilities of the proposed locations, in the long run we recommend five PUKs prepositioned at Naval Air Station Sigonella, which should be more than adequate to support any number of potential events.

As these key leader engagements have such important strategic implications in upholding and maintaining the prestige of the United States, it is not only important to standardize these events to create an ambiance of uniformity but also to reduce fraud, waste, and abuse within DoD spending. If implemented appropriately, the ORF PUK will help create consistency within the ORF event itself, alleviate nearly 50% of the man-hours spent on organizing these receptions and save the U.S. Navy approximately $22,000 to $48,000 annually in CNE-CNA-C6F alone. We believe that ORF event planning can be streamlined, that necessary material can be more effectively sourced and that ORF PUKs help solve this a small part of this problem for our Navy.

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Commander, U.S. Naval Forces Europe-Africa /Commander, U.S. 6th Fleet (CNE-CNA-C6F). (2017c, May 15) Policy for the use of Official Representation Funds. (CNE/CNA/C6F Instruction 7042.1D). Naples, Italy.

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The authors would like to acknowledge the support and assistance provided by Commander, U.S. Naval Forces Europe & Africa/Commander, U.S. Sixth Fleet N41 Logistics Directorate. Specifically, Mrs. Sandra Cuesta (ORF Specialist) and LT Aaron Buchanan (ORF Manager), without whom this project would have not been possible. Additional thanks to Commander Task Force 63/Military Sealift Command Europe & Africa, LCDR Alex Molnar and LSC (SW/AW) Kristie Pierre for the key data and references they provided. As well as the NAVSUP FLC Sigonella sites at NS Rota, NSA Naples, NSA Souda Bay and NAS Sigonella for the excellent logistics planning data they provided in support of our research.

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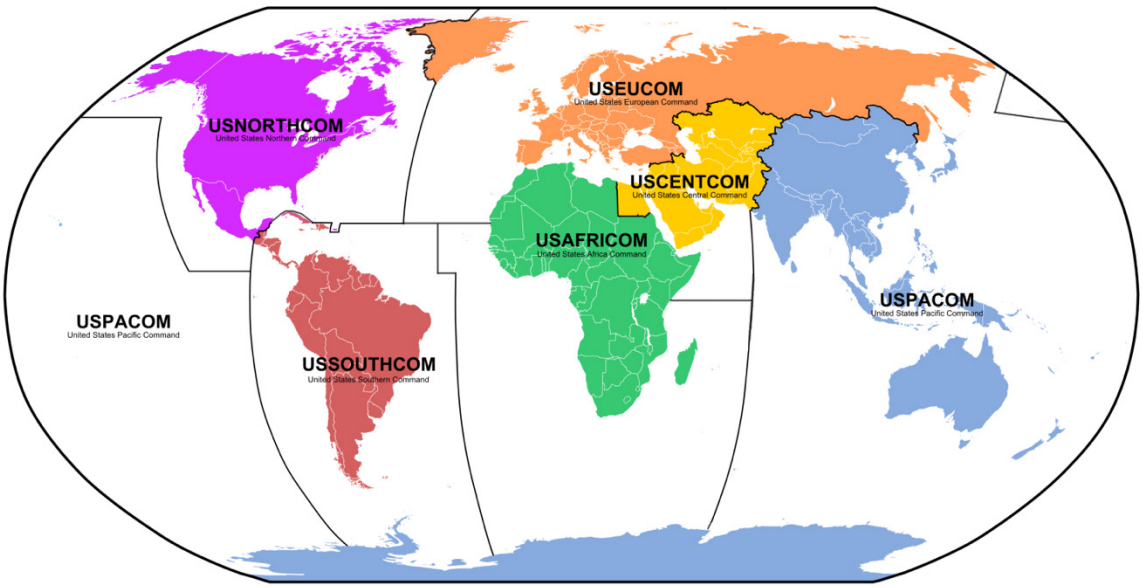
I. INTRODUCTION

A. MOTIVATION

The U.S. military has historically held maritime security cooperation receptions and luncheons. These diplomatic engagements will continue to grow more important as the United States engages with more countries in order to foster strong international relationships. These events take place all over the world and throughout all the Navy's fleets. For the purpose of this paper, we are focused on the U.S. Sixth Fleet (C6F), which includes Europe, Africa, the Mediterranean, and surrounding seas. Figure 1 illustrates the breakdown of Sixth Fleet, showing U.S. European Command in orange and U.S. Africa Command in green. Together, these two commands make up Sixth Fleet Area of Responsibility (AOR).



Source: U.S. Naval Forces Europe-Africa/U.S. 6th Fleet [CNE-CNA-C6F] (2018g).

Figure 1. Map of U.S. Geographical Combatant Commands

The history of maritime security cooperation engagements and maritime exercises conducted in recent years demonstrates the high level of importance the United States has put on strengthening partnerships in the region. A review of our nation's security and

defense strategies and their objectives from strategic to operational levels helps frame the environment and provides insight into the importance of the U.S. maritime mission in that region.

According to the secretary of the Navy,

> The Department of Defense authorizes the use of Official Representation Funds to host official receptions, dinners and similar events, and to otherwise extend official courtesies to guests of the United States and the DoD for the purpose of maintaining the standing and prestige of the United States and DoD. (Department of the Navy [DoN], 2015, p. 5)

Official Representation Funds (ORF) is a sub-allocation of funds to Commander, Navy Installations Command (CNIC) by the Department of the Navy, Assistant for Administration (DONAA) (DoN, 2015). Utilizing ORF to fund international engagements has proven to enhance and enrich relationships with partner nations. This is an invaluable resource that the United States and the Navy use to leverage international dealings. While planning an ORF event, all expenditure and/or reimbursements must be overall approved by the Navy Office of the General Counsel (OGC). Examples of ORF authorized expenses are food, entertainment, gifts, and mementos.

Currently, many of these ORF events are held on naval vessels. When preparing for these engagements, a ship's supply officer is tasked with setting up, planning, coordinating, and executing the event. When smaller ships such as frigates (FFG), destroyers (DDG), cruisers (CG), and amphibious command ships (LCC) are tasked with hosting these events, they often do not have all the equipment necessary to host such an event. Due to the lack of equipment, many supply officers have no choice but to use husbanding service providers (HSP) to rent equipment from the local economy, which can prove to be a time consuming and costly process.

The authors of this paper have all been involved in hosting diplomatic events on the ships on which they were stationed, which at times necessitated the request for ORF to procure items. The motivation behind this thesis is to investigate the ORF process, specifically relating to the procurement of rental equipment, which can be an extremely costly and inefficient process. A standardization of the equipment provided to the vessels

and a simplification of the procurement process may improve the Navy's ability to provide a more efficient and effective event. This streamlining could allow for more focus on other preparations for the event and additional events happening during the rest of the vessel's deployment.

B. ORGANIZATION

The remainder of this thesis is organized as follows: Chapter II provides the background of various C6F maritime exercises at which ORF events are held, as well as a literature review of ORF-related instructions and various strategic policies giving a historic perspective on the importance of hosting ORF events. Chapter III discusses events/ exercises held in Sixth Fleet that include ORF events. Additionally, it includes an in-depth case study on Baltic Operations (BALTOP), a naval exercise held in the Baltic Sea, to give a greater understanding of the importance of these events. Chapter IV describes the population and sample size, methodology employed, and a statistical and process flow analysis of the subpopulation of ORF events from fiscal year FY2014 through FY2018. Chapter V introduces an alternative model to the current ORF procurement structure, along with logistics planning factors, projected costs, and cost and man-hour comparison of current and proposed models. Finally, Chapter VI contains concluding remarks and recommendations.

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II. LITERATURE REVIEW

A. DEPARTMENT OF DEFENSE INSTRUCTIONS

Various Department of Defense (DoD) instructions governing Official Representation Funds (ORF) were reviewed in order to form a framework helpful in understanding the policies and protocol when conducting ORF events.

1. DoDI 7250.13: Use of Appropriated Funds for Official Representation Purposes

DoD Instruction (DoDI) 7250.13 serves to "establish policy, assign responsibility, and prescribe procedures governing the use of appropriated funds for official representation purposes throughout the DoD under section 127 of title 10, United States Code (U.S.C.)" (DODINST [DoD], 2009, p. 1). According to the DoD, the Annual Appropriations Act provides the authority to

> host official receptions, dinners, and similar events, and to otherwise extend official courtesies to guests of the United States and the DoD for the purpose of maintaining the standing and prestige of the United States and DoD. These events are normally hosted and attended by (not simply sponsored by) members of the Senior Executive Service (SES) or flag officers (FO). In lieu of an SES or FO, when the situation warrants, the ability to host and attend these events can be delegated to a GS-15/NSPS equivalent or O6 level of leadership. If an event involves a base/ship commander, the level of leadership can be delegated to an O5/O6. (DoD, 2009, p. 2)

Per this instruction, official courtesies will be extended for the following:

1. Civilian or military dignitaries and officials of foreign governments
2. Senior U.S. government officials (assistant secretary equivalent or above)
3. Dignitaries and senior officials of state and local governments
4. Other distinguished and prominent citizens (may include retired or former civilian or military officials of the DoD) who have made a substantial contribution to the United States or the Department of Defense

5. DoD personnel eligible for official courtesies on official visits to the field as reflected in Enclosure 2 (see Figure 2) (DoD, 2009, p. 5–6)

ENCLOSURE 2
DoD PERSONNEL ELIGIBLE FOR OFFICIAL COURTESIES
ON OFFICIAL VISITS TO THE FIELD

1. Secretary of Defense and Deputy Secretary of Defense
2. Secretaries, Under Secretaries, Assistant Secretaries, and General Counsels of the Military Departments
3. Chairman of the Joint Chiefs of Staff
4. Under Secretaries of Defense
5. Vice Chairman of the Joint Chiefs of Staff
6. Director of the Joint Staff
7. Chiefs and Vice Chiefs of Staff of the Army and Air Force
8. Chief and Vice Chief of Naval Operations
9. Commandant and Assistant Commandant of the Marine Corps
10. Combatant Commanders
11. Deputy Commander, United States European Command
12. Director, Defense Research and Engineering
13. Assistant Secretaries of Defense
14. General Counsel of the Department of Defense
15. Director, Operational Test and Evaluation
16. Inspector General of the Department of Defense
17. Chief Judge and Associate Judges of the U.S. Court of Appeals for the Armed Forces
18. Assistants to the Secretary of Defense
19. Director, Administration & Management
20. Director, Program Analysis and Evaluation
21. Director of Net Assessment
22. Secretary of Defense Representative to Europe
23. Directors of the Defense Agencies
24. Directors of DoD Field Activities (including President, USUHS)

Figure 2. DoD Personnel Eligible for Official Courtesies. Source: DoD (2009).

DoDI 7250.13 gives the authority for U.S. vessels to extend official courtesies in foreign ports. The instruction goes on to describe the ratios of U.S. military to total number of guests. For example,

> In parties of fewer than 30 persons, a minimum of 20% of invitees expected to attend should be honored or distinguished guests and members of their party. In parties of 30 or more persons, a minimum of 50% of invitees expected to attend should be honored or distinguished guests and members of their party. (DoD, 2009, p. 11)

ORF funding may be used to cover expenses of "the official party, as well as authorized U.S. escort officers and interpreters" (DoD, 2009, p. 9). Figure 2 shows DoD personnel eligible for official courtesies. Allowable expenses include but are not limited to: lodging, meals and refreshments, gratuities, official communications, valet services, entertainment, transportation (if government vehicles are not available), and gifts/mementos. All personnel authorized to expend ORF are expected to exercise the highest level of integrity and give due priority with the congressional limitations set forth for ORF expenses.

2. SECNAVINST 7042.K Guidelines for use of Official Representation Funds (ORF)

Secretary of the Navy Instruction (SECNAVINST) 7042.K for the use of ORF provides guidance on the implementation of DoD ORF policy, clarifies the Navy policies and procedures regarding ORF, and delegates authority for the expenditure of ORF within the DoN. The instruction states, "In the DoN, ORF, which is a 'subset' of EEE (emergency and extraordinary expenses) and administered through policies established by the Secretary, is used only to maintain the standing and prestige of the United States" (Department of the Navy [DoN], 2006, p. 2). Much of the SECNAV instruction reinforces the DoD instruction, giving extra details regarding authorized guest determination and authorized ORF expenses and providing forms for documenting ORF expenses.

Of interest to our research is the allowance that the secretary of the Navy gives toward the purchase of consumable materials and rental equipment in support of hosting ORF events. Such authorized expenses can include the following:

- Disposable supplies such as napkins, paper plates, cups, tablecloths, and perishable flower and/or candle arrangements for receptions/meals
- Rental of appliances, tables, chairs, glasses, plates, tablecloths, and other similar event support expenses directly related to providing official courtesies. However, <u>less expensive resources should be considered prior to renting these items</u>. The authorization holder or sub-authorization holder should determine that it is impractical to utilize these items from

DoD facilities and services (General Mess, Official Quarters) or as an inclusion in a catering contract (DoN, 2006, p. 5).

Few ports throughout Europe and Africa have a U.S. military presence, so borrowing rental items for use at a reception from a DoD facility is not a practical solution. Therefore, many ORF hosting units will leverage the husbanding contract to rent the material, often at high expense. Funding authorization with the DoN comes from the Assistant for Administration, Office of the Under Secretary of the Navy (AAUSN).

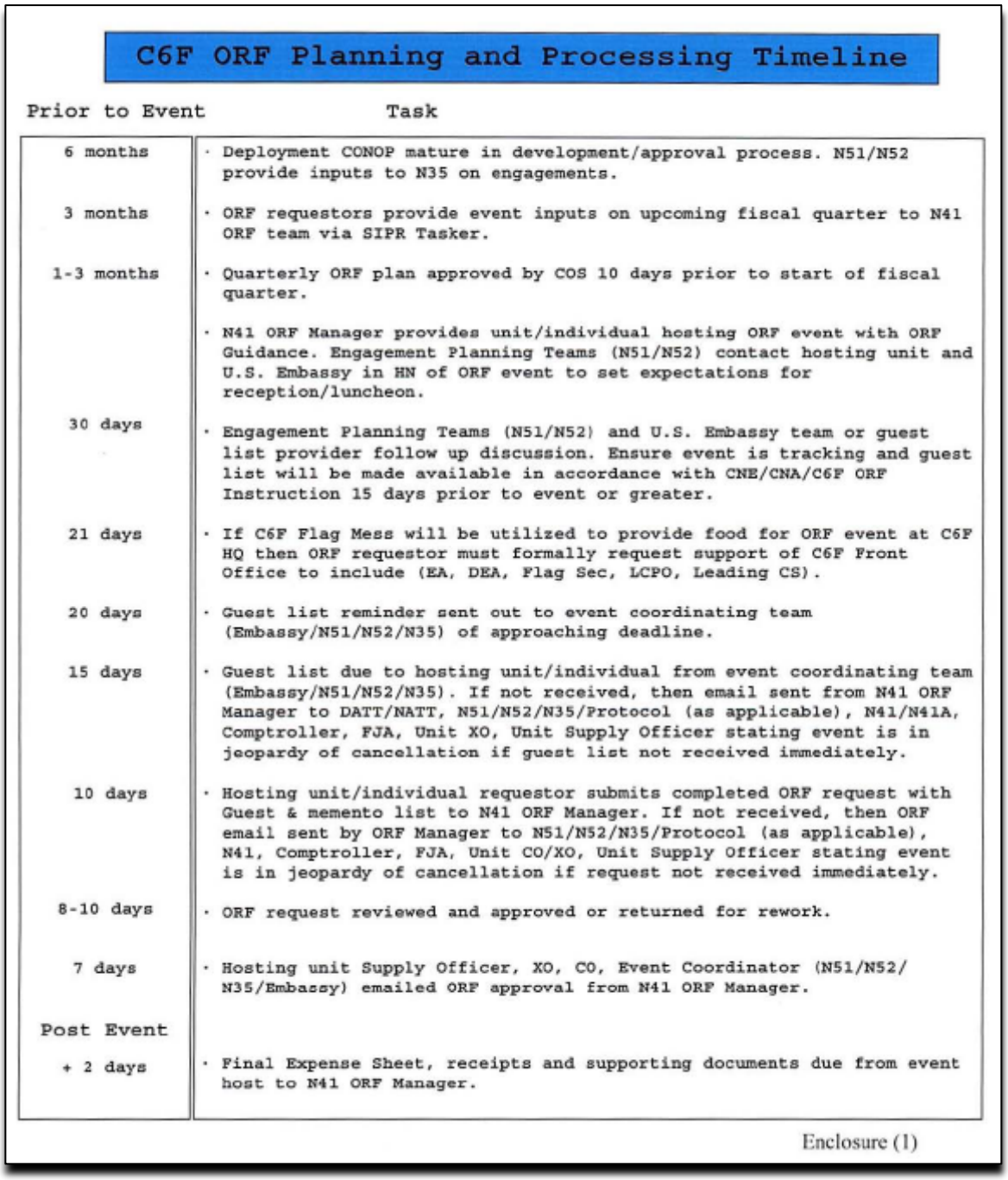
3. CNE/CNA/C6FINST 7042.1D Policy for Use of Official Representation Funds

Commander U.S. Naval Forces Europe; Commander U.S. Naval Forces Africa; Commander U.S. Sixth Fleet (CNE/CNA/C6FINST) 7042.1D sets forth the authority and responsibilities for all personnel involved in the ORF program management as well as the users of ORF funds within the CNE-CNA-C6F Area of Responsibility (AOR). The Commander of CNE-CNA-C6F has established the following estimated expense guidance based on the type of event, seniority of ORF eligible attendees, and costs in the event location. If event expenses are expected to exceed these levels, then justification must be provided. Recommended ORF limitations are as follows:

- Shipboard event: $20 per ORF eligible attendee
- Event hosted at local restaurant: $75 per ORF eligible attendee
- Event hosted at command headquarters or in private quarters: $35 per ORF eligible attendee (CNE-CNA-C6F, 2017c, p. 2).

Sometimes, as shown in Chapter IV, these amounts may not be adhered to due to various reasons: The hosting command wants a more elaborate event, local costs of required items are too high to stay within the limits, or the level of guests attending requires more money to create adequate service level. When the estimated expense guidance is not adhered to, approval to exceed must be obtained. This instruction also provides a timeline of events from which planners and hosts can track deliverables and anticipate hurdles that may unnecessarily delay an event's execution. This is shown in Figure 3. For example,

three months prior to the ORF event, ORF requestors provide event inputs on the upcoming fiscal quarter to N41 ORF Team via SIPR tasker.



C6F ORF Planning and Processing Timeline

Prior to Event	Task
6 months	· Deployment CONOP mature in development/approval process. N51/N52 provide inputs to N35 on engagements.
3 months	· ORF requestors provide event inputs on upcoming fiscal quarter to N41 ORF team via SIPR Tasker.
1-3 months	· Quarterly ORF plan approved by COS 10 days prior to start of fiscal quarter. · N41 ORF Manager provides unit/individual hosting ORF event with ORF Guidance. Engagement Planning Teams (N51/N52) contact hosting unit and U.S. Embassy in HN of ORF event to set expectations for reception/luncheon.
30 days	· Engagement Planning Teams (N51/N52) and U.S. Embassy team or guest list provider follow up discussion. Ensure event is tracking and guest list will be made available in accordance with CNE/CNA/C6F ORF Instruction 15 days prior to event or greater.
21 days	· If C6F Flag Mess will be utilized to provide food for ORF event at C6F HQ then ORF requestor must formally request support of C6F Front Office to include (EA, DEA, Flag Sec, LCPO, Leading CS).
20 days	· Guest list reminder sent out to event coordinating team (Embassy/N51/N52/N35) of approaching deadline.
15 days	· Guest list due to hosting unit/individual from event coordinating team (Embassy/N51/N52/N35). If not received, then email sent from N41 ORF Manager to DATT/NATT, N51/N52/N35/Protocol (as applicable), N41/N41A, Comptroller, FJA, Unit XO, Unit Supply Officer stating event is in jeopardy of cancellation if guest list not received immediately.
10 days	· Hosting unit/individual requestor submits completed ORF request with Guest & memento list to N41 ORF Manager. If not received, then ORF email sent by ORF Manager to N51/N52/N35/Protocol (as applicable), N41, Comptroller, FJA, Unit CO/XO, Unit Supply Officer stating event is in jeopardy of cancellation if request not received immediately.
8-10 days	· ORF request reviewed and approved or returned for rework.
7 days	· Hosting unit Supply Officer, XO, CO, Event Coordinator (N51/N52/ N35/Embassy) emailed ORF approval from N41 ORF Manager.
Post Event	
+ 2 days	· Final Expense Sheet, receipts and supporting documents due from event host to N41 ORF Manager.

Enclosure (1)

Figure 3. CNE-CNA-C6F ORF Planning and Processing Timeline. Source: CNE-CNA-C6F (2017).

There are many requirements that must be met in order for an ORF event to occur in CNE-CNA-C6F AOR. In addition to the multitude of requirements and a carefully orchestrated timeline, many forms must be completed. As examples, the ORF request form and ORF Final Expense Sheet can be seen in Appendix 1 and Appendix 2 respectively, and are completed by the event coordinator. In the case of U.S. vessels overseas, the event coordinator is typically the ship's supply officer.

B. STRATEGIC OBJECTIVES THROUGH DIPLOMACY

There is an important relationship between strategic objectives and operational goals. This is done by first reviewing the national level polices, and then linking those policies to theatre level operations.

1. National Security Strategy, 2017

The U.S. National Security Strategy (NSS), authored and released by President Trump in December 2017, sets the overall framework for how the commander-in-chief views the future of America's prosperity, security, and strength. The president calls for an "America First" strategy in the governing of the United States and leading its allies through the challenges and dangers that threaten the American people and their interests. While the United States may currently have the strongest military in the world, its advantages are shrinking as adversaries are modernizing their conventional and nuclear forces. In pursuit of U.S. leadership (political, economic, military) in this competitive world, the NSS calls for the protection of four national interests:

1. protect the American people, the homeland, and the American way of life,
2. promote American prosperity,
3. preserve peace through strength, and
4. advance American influence (White House, 2017, p. 3–4).

Working together with its allies and partners to defend against common threats allows the United States to magnify its powers. History has shown that countries with allies thrive. By focusing on the NSS's third pillar, which is to "preserve peace through strength,"

the importance of American diplomacy in building and sustaining relationships can be revealed:

> Face to-face diplomacy cannot be replaced by technology. Relationships developed over time, create trust and shared understanding that the United States calls upon when confronting security threats, responding to crises, and encouraging others to share the burden for tackling the world's challenges. We must enable forward-deployed field work beyond the confines of diplomatic facilities, including partnering with military colleagues in conflict-affected states (White House, 2017, p. 33).

Around the world, State Department diplomats stationed at U.S. embassies work with the Geographical Combatant Commanders (GCC) and Service Component Commanders (SCC) to enhance partnerships with host nations' government and military. Diplomats function as catalysts that identify opportunities where people-to-people exchanges take place. These exchanges are crucial for creating and improving on existing networks in the political, civil, and military arenas with U.S. allies and partners. The U.S. maritime component commanders support the State Department in the conduct of these exchanges by hosting shipboard receptions in key ports of call that attract political, civil, and military leaders to come together in a formal but subdued environment, otherwise known as ORF events.

2. National Defense Strategy, 2018

In January 2018, Secretary of Defense Jim Mattis released the DoD's National Defense Strategy (NDS). This was the first time the NDS had been updated in a decade. This update is intended to be the foundational document that determines how the DoD will contribute to President Trump's 2017 National Security Strategy. A key takeaway from this plan includes improving readiness and modernizing U.S. forces to make them more credible and lethal, focusing on Asia-Pacific and European theaters as the priority, while continuing to contain the Middle East by working closely with U.S. allies and partners. These combined efforts serve to ensure that the United States can "sustain American influence and ensure favorable balances of power that safeguard the free and open international order" (Department of Defense [DoD], 2018a, p. 1).

As the United States continues to be engaged in the longest armed conflict in history, Secretary Mattis reminds American citizens that "America's military has no preordained right to victory on the battlefield" and that "the homeland is no longer a sanctuary" (DoD, 2018a, p. 1,3). Competitors of the United States are modernizing their militaries at a rate never seen before. The U.S. defense objective is linked to the ability to provide global influence, gain and sustain support from allies and partners, and access global markets for economic prosperity. In short, the American way of life is directly linked to its defense capabilities and success on all battlefronts. In an environment where "every domain is contested to include air, land, sea, space, and cyberspace," it takes the full effort of the most lethal force assembled, the strongest alliances, and the highest level of technological innovation and performance to ensure success (DoD, 2018a, p. 3).

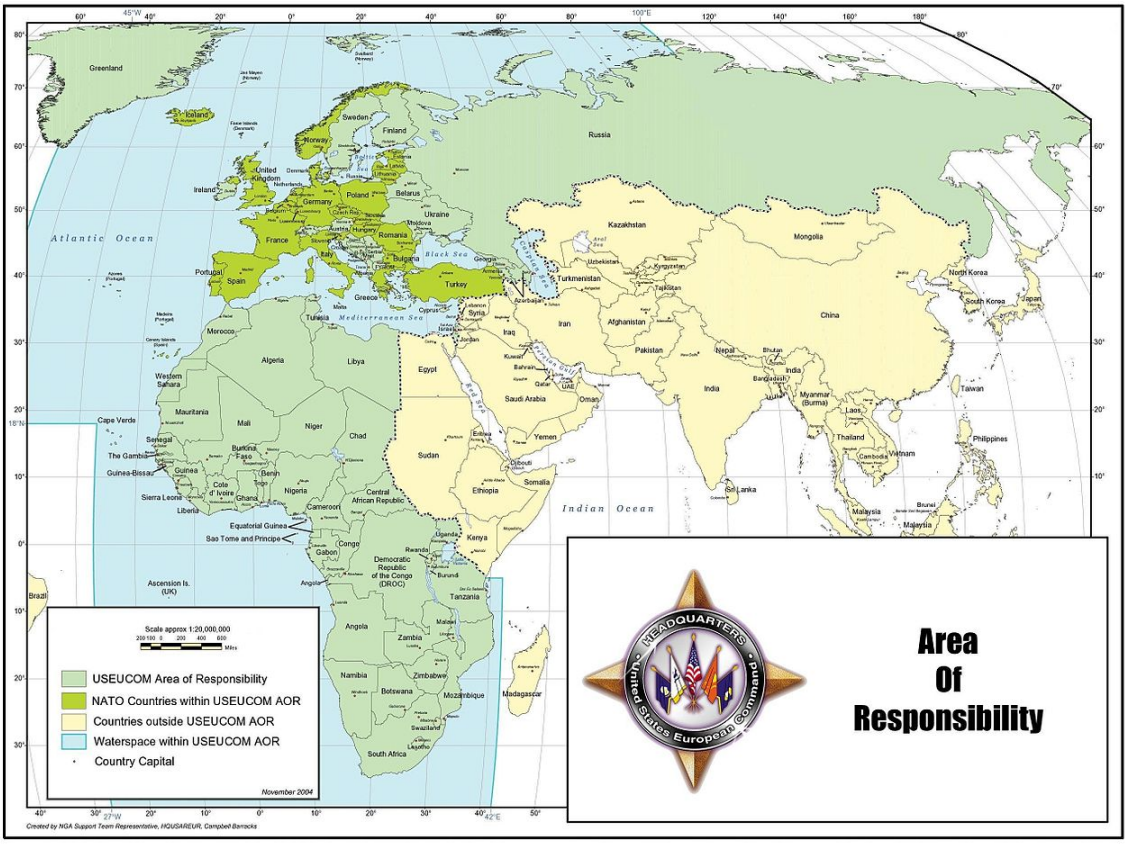
The NDS names three lines of effort for the DoD to pursue to increase its competitive edge globally. Arguably the most important, the second of these is to "strengthen alliances as we attract new partners" (DoD, 2018a, p. 5). Winston Churchill once said, "The only thing harder than fighting with allies is fighting without them." (DoD 2018b, para. 42). The United States has proven its reliance on allies time and again during conflicts throughout history. Today in Europe, Asia, and the Middle East, U.S. alliances and partners have ensured global reach by supporting the United States through basing and logistics, access to critical regions, and the sharing of information. The backbone of these relationships is mutual respect, responsibility, shared priorities, and accountability (DoD, 2018a). Allies and future partners are drawn by shared interest in reinforcing their own defenses and joining in a greater regional security cooperation. The United States provides a clear and consistent message encouraging those who want to commit to a greater defense posture.

3. U.S. European Command Posture, 2018

General Scaparrotti, the current commander of U.S. European Command (EUCOM), released his command posture statement to the U.S. Senate and House Committees on Armed Services in March 2018. Headquartered in Stuttgart, Germany, EUCOM is responsible for over 60,000 U.S. service members located in 14 countries and

28 communities. In his report to Congress, General Scaparrotti highlights the importance of the Trans-Atlantic alliance for U.S. national security and demonstrates how the EUCOM mission is fully emerged in both the National Security Strategy and the National Defense Strategy. This is demonstrated in how Europe supports the U.S. president's four pillars of the NSS: by providing "strategic access to support U.S. global operations," therefore protecting the homeland; by "being our most strategic trading partner," therefore promoting American prosperity; by continuing in their dedication to the "North Atlantic Treaty Organization, enabl[ing] the United States to preserve peace through strength"; and by Europe and the United States having such an intertwined past that much of their values and beliefs are the same, which helps to advance American influence in the world (United States European Command [EUCOM], 2018, p. 1).

In past decades, EUCOM's mission focus was engagement and assurance. Today that focus has shifted to deterrence and defense. Figure 4 depicts EUCOM's AOR in lime green. EUCOM's top strategic and operational objectives are to deter Russia and defeat violent extremist organizations in the region. In FY2017, "EUCOM conducted over 2,500 military to military engagements, including over 700 State Partnership Program events in 22 countries, and under Section 1251 authority, EUCOM trained nine allies in 22 exercises" (EUCOM, 2018, p. 6). It is this high level of partner-to-partner engagement that shows the deep commitment by EUCOM and its subordinate services to help further the strategic objectives of the United States, by promoting increased interoperability, partner nation integration, and enhanced strategic access.



Source: United States Army Europe (2004).

Figure 4. U.S. European Command AOR Until 2008, When U.S. African Command Was Commissioned.

For EUCOM to provide the combat credible force outlined in the NDS, it relies on Congress for funding and on U.S. allies to provide approval for hosting "assigned and rotational combat forces, flexible basing options, and pre-positioned equipment in theater" (EUCOM, 2018, p. 9). Through partnered allies in Europe and continuous engagement of its service components, EUCOM helps pave the necessary paths toward obtaining a desired, credible U.S. force.

4. U.S. Africa Command Posture, 2018

General Waldhauser, the current commander of U.S. Africa Command (AFRICOM), released his command posture statement to the U.S. Senate and House Committees on Armed Services in March 2018. Headquartered in Stuttgart, Germany,

AFRICOM is responsible for over 7,200 U.S. service members, DoD civilians, and contractors located at headquarters and bases throughout Europe and Africa. AFRICOM is responsible for carrying out very complex and varied missions in 53 countries. Their mission statement is: "U.S. Africa Command, with partners, strengthens security forces, counters transnational threats, and conducts crisis response in order to advance U.S. national interests and promote regional security, stability, and prosperity" (United States Africa Command [AFRICOM], 2018, p. 2).

AFRICOM is committed to providing the highest level of engagements in Africa that allows its African partners to be able to build the capability and capacity for having "African solutions to African problems" (AFRICOM, 2018, p. 3). AFRICOM leadership recognizes that military force is not the correct agent of change for Africa. It will require great partnerships spanning many agencies to achieve stability and thriving economies throughout the region. AFRICOM is actively employing a three-fold strategic approach to achieve this goal. First, they are committed to activities that directly support U.S. diplomatic and development efforts. Activities such as working with interagency partners helps the European and African Union to develop government accountability, increased education, and stronger economies. (AFRICOM, 2018). Second, they are focused on the "By, With, and Through" framework which is described as follows:

> Security operations are executed almost exclusively by the partnered security forces. U.S. Africa Command works with partnered security forces based on their operational needs. The vital objective of the United States and the partnered nation are achieved through a cooperative relation in which U.S. Africa Command plays a supporting role. (AFRICOM, 2018, p. 3)

Third, it is keeping military pressure on the violent extremist organizations. This is by far the greatest threat and biggest impediment for Africans to improve their current political and economic situation. According to the United Nations, "Africa is home to approximately 18.5 million refugees, asylum seekers, and internally displaced persons" (AFRICOM, 2018, p. 4). Additionally, "Africa is said to have 15 of the 25 most fragile countries in the world," according to 2017 Fund for Peace (AFRICOM, 2018, p. 5). This may be a result of weak and ineffective governance, however, through recent continuous

engagement activities, AFRICOM has "built strong and trusting relationships with many African nations, key partners, and organizations" (AFRICOM, 2018, p. 24).

5. U.S. Naval Forces Europe and Africa

In 1917, U.S. Naval Forces Operating in European Waters command was formed. Throughout the 20th century, the name and responsibilities of this command changed, but its mission to protect U.S. interests in the region remained constant (Still, W., 2006). In August 2005, Commander, United States Naval Forces Europe (CNE) moved from London, England, to Naples, Italy, and merged with Commander, United States Sixth Fleet (C6F). In September 2008, when United States Africa Command (AFRICOM) stood up operations in Germany, CNE-C6F added Commander, United States Naval Forces Africa (CNA). The AOR for United States Naval Forces Europe and Africa and United States Sixth Fleet "covers more than 20 million square nautical miles of ocean, touches three continents and encompasses more than 67 percent of the Earth's coastline, 30 percent of its landmass, and nearly 30 percent of the world's population" (CNE-CNA-C6F, 2018g, para. 3). In a September 2018 speech at Exercise Sea Breeze in the Black Sea, the current commander of United States Naval Forces Europe and Africa noted "the importance of maintaining presence and engagements with allies and partners through port visits, cultural exchanges and participation in complex, multi-national maritime exercises" (CNE-CNA-C6F, 2018f, para. 1) He continued, "It is important for us to discuss the challenges we face, how we can cooperate better together, and identify opportunities that lead to a more stable and secure region" (CNE-CNA-C6F, 2018f, para. 2). His words are at the very heart of why ORF events happen in the CNE-CNA-C6F AOR as well as around the world. The forthcoming analysis of these engagement events through both a statistical cost analysis and a process analysis will hopefully allow CNE-CNA-C6F to conduct even more culture exchanges and engagements with current and future partners, providing stronger partnerships and even more stability and security in the region.

To conclude this literature review, we would like to point out that our research shows that no previous research has been done on this topic and that there is therefore a gap in the literature review. In this thesis, we answer the following questions: Can the ORF

event planning process be streamlined? Is there a more effective way of obtaining needed materials? Are events that require rental equipment more costly to the Navy than events that do not require rentals? And if so, is there a better or more cost-effective way to obtain needed items? These are just a few of the pertinent issues we address in the coming pages.

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III. ANNUAL SIXTH FLEET ENGAGEMENTS/EXERCISES

A. BACKGROUND

According to the Commander, U.S. Naval Forces Europe-Africa, Sixth Fleet AOR consists of 104 countries and over 20 million square nautical miles of the world's oceans and includes Russia, Europe, and practically the entire continent of Africa - 67 percent of the Earth's coastline (CNE-CNA-C6F, 2018g). Sixth Fleet conducts numerous multinational maritime operations, which are briefly described in this chapter. During these annual exercises, the U.S. naval vessels involved host a myriad of ORF events. Generally, between one and five ORF events take place per engagement/exercise. These events help strengthen relationships with countries participating in the exercises and are an invaluable diplomatic tool.

1. Formidable Shield

The purpose of Formidable Shield, a naval exercise, is to "improve allied interoperability in the live-fire Integrated Air and Missile Defense (IAMD) environment, using NATO command and control reporting structures" (CNE-CNA-C6F, 2017d, para. 1). Participating countries include Canada, France, Germany, Italy, Netherlands, Spain, the United Kingdom, and the United States. This exercise involves more than 14 ships, 10 aircraft, and over 3,300 personnel.

2. Sea Breeze

Sea Breeze is an annual exercise conducted in the Black Sea. Its purpose is to "enhance flexibility and interoperability, strengthen combined response capabilities, and demonstrate resolve among allied and partner nation forces to ensure stability in the Black Sea region" (CNE-CNA-C6F, 2018d, para. 2). Participating countries include Bulgaria, Canada, Denmark, Estonia, Georgia, Greece, Italy, Lithuania, Moldova, Norway, Poland, Romania, Sweden, Turkey, Ukraine, the United Kingdom, and the United States.

3. BALTOPS

Exercise Baltic Operations (BALTOPS) is an annual maritime exercise "designed to improve training value for participants, enhance flexibility and interoperability, and demonstrate resolve among allied and partner forces in defending the Baltic Sea region" (CNE-CNA-C6F, 2018b, para. 2). Participating countries include Belgium, Denmark, Finland, France, Germany, Latvia, Lithuania, Netherlands, Norway, Poland, Romania, Spain, Sweden, Turkey, the United Kingdom, and the United States. It includes approximately 43 maritime units and over 60 aircraft. This exercise is described in further detail in a case study later in this chapter.

4. Phoenix Express

According to CNE-CNA-C6F, Phoenix Express is one of three regional exercises in Africa that are part of an all-inclusive strategy to provide collective combined opportunities among African forces and international partners addressing maritime security concerns. (CNE-CNA-C6F, 2017b). Additionally, it is designed to improve regional cooperation, increase maritime domain understanding, information-sharing practices, and operational abilities in order to boost efforts to foster safety and security in the Mediterranean Sea (CNE-CNA-C6F, 2017b). Participating countries include Algeria, Croatia, Egypt, Greece, Italy, Malta, Mauritania, Morocco, Netherlands, Spain, Tunisia, and the United States.

5. Obangame Express

Obangame Express affords "African, European, South American, and U.S. partner maritime forces the opportunity to work together, share information, and refine tactics, techniques and procedures in order to assist Gulf of Guinea Maritime nations with building capacity to monitor and enforce their territorial waters and exclusive economic zones" (CNE-CNA-C6F, 2018c, para. 1). Thirty-one countries participate in this exercise.

6. Cutlass Express

Cutlass Express is another one of the three regional African exercises that attempt to provide collaborative strategy and opportunities with Africa and its international

partners. CNE-CNA-C6F (2017) reports they are primarily concerned with improving the effectiveness of maritime law enforcement and fortifying security efforts in East Africa by directly addressing piracy, illegal trafficking, and illegal fishing (CNE-CNA-C6F, 2017e). Participating countries include Australia, Canada, Comoros, Denmark, Djibouti, France, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, Netherlands, Tanzania, Turkey, and the United States.

7. AMLEP/Operation Junction Rain

According to CNE-CNA-C6F "in addition to conducting boardings, the three countries exchanged best practices across a broad spectrum of maritime operations including water safety and at-sea vessel boarding, inspection, and search procedures" (CNE-CNA-C6F, 2017e, para. 5). Operation Junction Rain is the operational phase of AMLEP. Participating countries include, but are not limited to: Cabo Verde, Senegal, and the United States.

8. Exercise Breeze

CNE-CNA-C6F describes Exercise Breeze as enhancing the interoperability on a tactical level among participating naval units and staffs in conducting conventional and non-conventional warfare procedures, as well as countering hybrid threats (CNE-CNA-C6F, 2018d). Participating countries include Belgium, Bulgaria, France, Greece, Italy, Poland, Romania, Turkey, United States, and NATO's Allied Maritime Command.

B. SAMPLE CASE STUDY: BALTOPS

Baltic Operations, or BALTOPS, is an annual military exercise that was first held in 1971. It is currently the largest military operation held in the Baltic. During the 2018 BALTOPs, approximately 5,000 personnel from 22 nations, 60 aircraft, 42 ships, and one submarine participated (CNE-CNA-C6F, 2018b). At its inception, the mission of BALTOPS was to maintain freedom of navigation, or "show the flag," so to speak. Its current mission is to train "gunnery, replenishment-at-sea, undersea warfare, radar tracking, mine countermeasure, seamanship, and search and rescue and maritime interdiction operations" (Pike, 2011, para. 14).

As the United States sponsors this multinational invitational exercise, one of the main focuses is to improve the nations' cooperative abilities. Allowing nations to work side by side to learn and understand how each other's navies work gives countries invaluable insight on customs and cultures about their allies that they may not otherwise understand or know. Building these relationships also allows countries to enhance the mutual understanding of each other's maritime operations. BALTOPS encompasses two distinct phases, beginning with cross-decking operations (phase 1). A cross-decking operation is where sailors from different countries swap places for a period of time—from a few hours to a few days—in order to experience what it is like to be in another country's navy. Cross-decking allows for casual interactions among nations while individuals teach each other how their country conducts ship and maritime operations. The Main Planning Conference is held during this phase.

Each year, a local country is chosen to host the exercise. The host nation is asked to host the Main Planning Conference as well as to provide a place for participating countries to moor their ships during pre-exercise events. It is here at the Main Planning Conference that the host nation "provides a central receiving area for media, distinguished visitors, and other observers involved" (Pike, 2011, para. 4). The conference is also a place where officials are briefed on the year's mission and who the exercise participants are, and where schedules are promulgated (Pike, 2011).

The second phase is called the Partnership for Peace (PfP) phase. This phase is the sea portion of the exercise, when all participating countries work together to maintain safe navigation while performing various nautical exercises. These events are intended to "enhance interoperability of NATO and non-NATO countries in conducting multinational maritime operations. These exercises will focus primarily on communications, ship handling, search and rescue, and non-traditional military missions" (Pike, 2011, para. 5).

Throughout the annual BALTOPs exercise, the United States hosts multiple ORF events. Most of these ORF events take place during the first phase. These events are usually held on one of the U.S. ships participating in BALTOPS and range from a small luncheon for 12 in the wardroom to an elaborate reception for over 300 on the flight deck. Sailors

also participate in non-traditional events, such as soccer tournaments and Iron Chef competitions.

During a luncheon-type event, invited guests will join the Commanding Officer (CO) of the hosting ship along with other senior members of the crew. The invited guests range from defense attachés to mayors, governors, or military leaders. The number of guests is limited by the seating in the wardroom (the dining room for officers), which usually is no more than 12. The ship's culinary team prepares a formal meal that typically consists of several courses and is plated on the ship's fine china with silver service. The table is adorned with lavish garnish of freshly carved fruits and flowers. The conversations between guests helps to strengthen enduring relationships. Upon completion of the meal, it is customary for the guests to be taken on a tour of the ship, where they will see and interact with sailors working about the ship.

A reception-type event is a large-scale event usually held outside on the ship's flight deck. Upon arrival, invited guests are rendered honors as they board the ship, greeted by a member of the ship company, and escorted to the flight deck. Guests mingle with other dignitaries from various nations and members of the ship's crew, as well as U.S. officials. The flight deck is transformed by the crew from a warship to a well-dressed reception area. Dressed with red, white, and blue bunting along the rails and a massive tent overhead, festive white lights adorn the tent as well as the *up and overs* (wire running the length of the ship from bow, over the mast, to stern), giving the ship an inviting ambience. Tables are set up with tablecloths displaying the ship's insignia. These tables are filled with stationary hors d'oeuvres on silver trays and lavish garnish, with an ice sculpture or two adding to the feel. The ship's culinary team serves passed hors d'oeuvres and drinks, and the food ranges from regional favorites to exotic specialties, with a few American favorites mixed in as well. Additionally, a bar is set up for guests to order custom drinks. Cocktail tables are scattered throughout the flight deck for guests to rest their food and drinks on, as well as to mingle around. During the reception, the commanding officer and honored guests will address the audience. However, the majority of the business conducted is done in a casual manner throughout the night's mingling. This is a way for the United States to

showcase the ship and its crew to partnered nations and show appreciation for other countries' hospitality during BALTOPS.

All these events require ORF funding. During BALTOPS, U.S. Navy supply officers work with contracting officers and HSPs to procure and rent tents, lights, tables, tablecloths, heaters or fans (weather dependent), food, flowers, and alcoholic beverages. The items procured are paid for with preapproved ORF funding. With the background and necessity of ORF events established, the following chapter addresses the costs and man-hours involved in the ORF process.

IV. ANALYSIS OF CURRENT MODEL

A. INTRODUCTION

As we believe that there is potential to improve the ORF process in its current form, we begin by addressing the purpose of our research. Ultimately, our goal is to find the truth behind the inefficiencies in ORF event planning and whether or not the current process is the most effective way to prepare for ORF events. A few key questions should be asked:

- Is the current ORF model a good use of taxpayer dollars?
- Is there a more cost-effective way to achieve the same result?
- Is there a less time-consuming way to achieve the same result?
- How many man-hours do supply officers and support staff at CNE-CNA-C6F spend organizing these events and locating the appropriate rental equipment?
- Would it be a better use of taxpayer dollars to purchase pre-assembled kits for ORF events, sending them only when required?

This analysis looks at this issue not only from a financial perspective, but also from a human capital perspective.

ORF funding can be spent on various categories: mementos, food, beverages, consumables, disposable goods, and rental equipment, just to name a few. As most of the items are not variables, but rather constants that increase proportionally with the number of guests, the variable that we intend to specifically analyze is the rental equipment. Most ORF events require equipment of some sort in order to provide infrastructure for the event itself. On a carrier or another large deck ship, storage is so ample that ships of this size purchase and store items such as tents, cocktail tables, and so forth. As discussed previously, because smaller ships do not have storage capacity for these items, when directed by CNE-CNA-C6F to host an ORF event, these smaller platforms are left with no choice but to rent the necessary items using ORF funding.

Desired equipment varies from event to event however, it typically consists of items such as a large tent, cocktail tables, linens, lights, and a portable bar. Not only is this equipment expensive to rent, it is time consuming to locate and procure, further compounded by exchange rates and language barriers. HSPs are used to procure rental equipment, which in turn causes the Navy to incur HSP's markup rates, further adding to the cost. From a human capital point of view, it is complicated to secure funding to rent needed items. Another lengthy process is the routing process that the forms go through to get approved and ultimately funded. These issues form the base of this study, which will address the costs and man-hours associated with ORF reception rental equipment in the CNE-CNA-C6F AOR. The forthcoming discussion covers the population and sample size, the methodology employed, and the cost and process analyses themselves.

B. POPULATION AND SAMPLE

The data set made available to us from CNE-CNA-C6F spans from FY2014 to FY2018. It is this five-year period of data that we analyzed. With CNE-CNA-C6F as the AOR of focus, the population in question is ORF events. There are five categories of ORF events: mementos, luncheons, conferences, staff talks, and receptions. The first four events are less frequent, generally do not require much infrastructure, and make up less than half of the ORF expenses collectively. The largest spending category is ORF receptions, which represent 75% of overall ORF expenses. This category can be further decomposed into carrier-hosted receptions, shore-based receptions, and finally, the FFG/DDG/CG/LCC hosted receptions (small ships), which make up 56% of overall annual ORF expenses (S. Cuesta, email to authors, September 21,2018). This information is shown in Table 1. For example, in 2018, FFG/DDG/CG/LCC reception spending was $153,657, which represents nearly 70% of ORF spending for the year. Collectively, from FY2014 to FY2018, total small ship ORF reception spending was $466,576, which is over 55% of ORF spending overall during the five-year period (S. Cuesta, email to authors, September 21,2018).

Table 1. CNE-CNA-C6F ORF Events by Category and Dollar Value FY2014–2018.

		2014	2015	2016	2017	2018	Total
Mementos		$ 21,200	$ 16,037	$ 14,935	$ 25,576	$ 7,588	$ 85,336
Luncheons		$ 13,660	$ 9,188	$ 6,322	$ 8,732	$ 9,519	$ 47,421
Conferences		$ 700	$ 7,961	$ 4,502	$ -	$ 5,472	$ 18,635
Staff Talks		$ 6,437	$ 7,878	$ 12,747	$ 11,932	$ 20,237	$ 59,231
Receptions:	SHORE (C6F)	$ 11,076	$ 17,534	$ 30,006	$ 13,596	$ 13,600	$ 85,812
	CVN/ LHD	$ 18,918	$ 12,686	$ 20,958	$ 13,966	$ 11,161	$ 77,689
	LCC/CG/DDG/FFG	$ 110,429	$ 66,835	$ 70,462	$ 65,193	$ 153,657	$ 466,576
TOTAL ORF SPENDING		$ 182,420	$ 138,119	$ 159,932	$ 138,995	$ 221,234	$ 840,700

Adapted from S. Cuesta, email to authors, September 21, 2018.

From the overall population of 632 events, the focus was narrowed to 121 small ship receptions and a sample set of 41 events was selected at random by CNE-CNA-C6F. Table 2 depicts this screening and categorizes the events by fiscal year, the number of small ship receptions held (our screened subpopulation), the total number of ORF-funded events that occurred by year (overall population), the amount of money spent annually on small ship receptions, the total amount of collective ORF expenses for all events during that fiscal year, and finally, overall small ship reception event funds as a percentage of total ORF funds spent. For example, during FY2017, 16 of the 105 total ORF-funded events were small ship receptions, which cost $65,193, or 47% of the total spent on all ORF events during that fiscal year.

Table 2. CNE-CNA-C6F ORF Events and Dollar Value FY2014–2018.

FY	Subpopulation-Number of Small Ship Receptions	Population-Total Number of ORF Events	Dollar value ($) of ORF spent on Subpopulation	Dollar value ($) of Total ORF spent by year	Percentage of total ORF funds spent on Subpopulation
2014	30	140	$110,429	$182,420	61%
2015	27	128	$66,835	$138,119	48%
2016	26	150	$70,462	$159,932	44%
2017	16	105	$65,193	$138,995	47%
2018	22	109	$153,657	$221,234	69%
TOTALS	**121**	**632**	**$466,576**	**$840,700**	**54%**

Adapted from S. Cuesta, email to authors, September 21, 2018.

While Table 2 compares the subpopulation to the population, Table 3 contrasts the sample size to the subpopulation. As an example, for FY2017, a total of eight final expense packages were provided from CNE-CNA-C6F out of a total of 16 available (the subpopulation consisting of small ship receptions), equating to 50% of the events. In order to not skew the data, two events/ packages were specifically excluded from the original 41 final expense packages received, therefore decreasing the relevant sample size to 39. This will be further explained in the Statistical Cost Analysis Section.

Table 3. CNE-CNA-C6F Small Ship Reception Sample vs. Population.

FY	Sample Size	Subpopulation Size	%
2014	7	30	23%
2015	4	27	15%
2016	7	26	27%
2017	8	16	50%
2018	13	22	59%
TOTALS	**39**	**121**	**32%**

Adapted from S. Cuesta, email to authors, September 21, 2018.

C. METHODOLOGY

1. Statistical Methods

The sample set of the subpopulation was scrutinized for relevant financial and other data by analyzing provided ORF final expense packages, consisting of the following forms and documents:

- CNE/CNA/C6F STAFFINST 7042.1C
- Invitee list for ORF events/mementos
- SF 1034 (public voucher for purchases and services other than personal)
- DD 1149 (Requisition and Invoice/ Shipping Document)
- NAVSUP FORM 1282 (Food-Item Request/Issue Document)
- Invoices and receipts from local vendors/rental companies

This data was compiled and organized according to date, location, name/class of ship, number of guests, and the dollar values spent on food, alcohol, consumables, disposables, and rental equipment.

The sample set of 39 items was also divided into 2 sample sets in order to analyze costs between events with rentals and those without. From total costs of mementos to alcoholic beverages purchased to total DoD in attendance, many facets of data were available via the ORF Final Expense Packages. As many of those components are outside of the scope of this study, only those relevant data elements were analyzed. According to Scherbaum and Shockley (2015), "descriptive quantitative analyses should always be one of the first steps in the process of analyzing data" (pg. 3). The purpose of the descriptive quantitative analysis is to extract the desired data from the overall picture. Specifically, we identified the total number of guests, total cost of the ORF reception itself, and finally the rented equipment as the pertinent categories, which are analyzed in Section D of this chapter.

The main goal is to identify any correlation between the cost of the event and the rented equipment itself. Therefore, we took the overall cost of each event and calculated a per person cost in order to compare equivalent data. This data was mined to compare the means and standard deviations. Later on, this serves as a basis to extrapolate the amount of ORF funds spent on rental equipment worldwide, as well as to analyze the correlation between the cost of the event itself and whether or not the rented equipment affected the total amount of taxpayer dollars spent per event.

2. Process Methods

This portion of our research focuses on the equipment rentals for ORF receptions as an operations management problem. Tomes and Hayes (1993) suggest, the complexity will become readily apparent in Section E of this chapter as multiple entities are involved in the ORF approval process over a six-month period. For example, three months prior to the ORF event itself, four tasks are required to be completed by four of the nine entities involved.

The ORF process is complicated due to the process of renting needed equipment. With so many moving parts and different entities involved, it is helpful to look at a process flow chart or a simple sequence of operations to identify where effectiveness can be exploited or improved. Highlighting areas of potential improvement, such as bottlenecks or inefficiencies within a diagram or flow chart of the ORF rental equipment process, may identify the number of man-hours involved in renting equipment. With that in mind, there are items that are strictly rental-related that lengthen the ORF process due to the contracting process involved with renting these items.

CNE-CNA-C6F INST 7042.1D was thoroughly examined to construct a cohesive timeline, with the goal of identifying all the major entities involved in the ORF process and number of man-hours spent on each individual task. More specifically, we aimed to isolate those entities involved in the equipment rental process to determine the number of man-hours exhausted in contrast with those events not requiring rental equipment. We then broke the timeline down into tasks and their corresponding necessity and finally, constructed flow charts to properly account for all time spent. It must be mentioned that

the analysis involves pulling specifically from the authors' experience with the ORF process itself.

D. STATISTICAL COST ANALYSIS

We began by screening each piece of data for missing information and then proceeded to examine the distribution of data and outliers, finally arriving at the relationship between the two variables in question: overall ORF event cost and event rental cost. Some ships do not submit rental costs with the final expense packet for many reasons. Approximately 50% of our sample data set did not include rental equipment, which occurs for the following reasons:

- Funds are limited and can be exhausted on food, alcoholic beverages, and consumables, leaving nothing for equipment.
- The commanding officer demands extravagant cuisine and décor, which exhaust funds for rentals.
- Rental items are requisitioned and paid for using other funding, such as Force Protection, Wardroom.
- Supply officer purchased event equipment items prior to deployment.

Scherbaum and Shockley (2015) state that these gaps in data "can lead to results that may not be representative of the intended population, lead to threats to the internal validity of the research, or lead to insufficient data for tests of hypotheses" (p. 47). We exploited this missing data and proceeded to segregate the events into small ship receptions with rentals and those without. Tables 4 and 5 show this data, broken up into Fiscal Year, Document Control Number (DCN), Date, Ship, Location, Number of Guests, Dollar Value of Reception and Dollar Value of Rented Equipment (if applicable). In Table 4, for example, on September 1, 2015, the USS *Donald Cook (DDG 75)* hosted a reception for 208 people in Odessa, Ukraine, and spent $3,354.42, of which $1,699.11 was spent on rental equipment.

Table 4. CNE-CNA-C6F ORF Reception Data (with Rental Equipment), FY2014–FY2018.

FY	DCN	Date	Ship	Location	Total Guests	Total ORF Reception	Cost Per Person	Rented Equipment
FY14	22	16-Dec-13	USS Monterey	Valletta, Malta	100	$ 6,342.36	$ 63.42	$ 2,707.93
	92	13-Apr-14	USS Leyte Gulf	Cobh, Ireland	149	$ 3,540.76	$ 23.76	$ 891.77
	100	29-Apr-14	USS Vella Gulf	Haifa, Israel	150	$ 2,669.79	$ 17.80	$ 2,184.96
	150	18-Aug-14	USS Vella Gulf	Batumi, Georgia	117	$ 2,324.65	$ 19.87	$ 200.00
FY15	132	4-Jul-15	USS Jason Dunham	Helsinki, Finland	127	$ 1,997.05	$ 15.72	$ 268.88
	154	1-Sep-15	USS Donald Cook	Odessa, Ukraine	208	$ 3,354.42	$ 16.13	$ 1,699.11
FY16	16	29-Oct-15	USS Porter	Split, Croatia	150	$ 2,854.06	$ 19.03	$ 1,550.00
	117	12-Jun-16	USS Porter	Constanta, Romania	89	$ 4,205.35	$ 47.25	$ 2,140.44
FY17	21	19-Dec-16	USS Mason	Belfast, Ireland	160	$ 1,874.19	$ 11.71	$ 251.02
	27	20-Jan-17	USS Carney	Villefranche-sur-mer, France	184	$ 3,572.47	$ 19.42	$ 2,189.00
	39	23-Feb-17	USS Hue City	Tallinn, Estonia	253	$ 7,939.09	$ 31.38	$ 1,858.00
	75	15-Jul-17	USS Hue City	Ukraine	247	$ 6,351.26	$ 25.71	$ 2,016.20
	97	15-Aug-17	USS Oscar Austin	Theoule sur Mer, France	330	$ 6,165.30	$ 18.68	$ 421.06
FY18	11	9-Dec-17	USS Carney	Valletta, Malta	273	$ 4,999.38	$ 18.31	$ 3,755.47
	31	10-Feb-18	USS Ross	Albania	122	$ 7,674.47	$ 62.91	$ 6,541.50
	59	24-Apr-18	USS Arleigh Burke	Tunisia	122	$ 6,745.10	$ 55.29	$ 4,351.75
	80	5-Jun-18	USS Mount Whitney	Kiel, Germany	702	$ 15,035.35	$ 21.42	$ 1,056.08
	82	25-Jun-18	USS Bainbridge	Oslo, Norway	205	$ 13,964.00	$ 68.12	$ 5,620.45
	99	25-Jul-18	USS Winston S. Churchill	Tallinn, Estonia	109	$ 6,161.75	$ 56.53	$ 2,990.00
	102	29-Jul-18	USS Carney	Algiers	15	$ 5,749.01	$ 383.27	$ 4,007.02
	127	7-Sep-18	USS Carney	Alexandria, Egypt	163	$ 6,586.06	$ 40.41	$ 4,860.00

Adapted from S. Cuesta, email to authors, September 21, 2018.

Table 5. CNE-CNA-C6F ORF Reception Data (without Rental Equipment), FY2014–FY2018.

FY	DCN	Date	Ship	Location	Total Guests	Total ORF Reception	Cost Per Person	Rented Equipment
FY14	34	11-Feb-14	USS Donald Cook	Rota, Spain	170	$ 6,349.50	$ 37.35	$ -
	102	24-Apr-14	USS Spearhead	Libreville, Gabon	86	$ 14,020.09	$ 163.02	$ -
	107	8-May-14	USS Taylor	Batumi, Georgia	362	$ 3,949.60	$ 10.91	$ -
	119	16-Jun-14	USS Ross	Rota, Spain	138	$ 3,754.75	$ 27.21	$ -
FY 15	120	15-May-15	USS McFaul	Rhodes, Greece	186	$ 2,176.37	$ 11.70	$ -
	162	25-Sep-14	USS Carney	Rota, Spain	410	$ 3,754.75	$ 9.16	$ -
FY 16	2	16-Oct-15	USS Winston S. Churchill	Piraeus, Greece	136	$ 3,211.34	$ 23.61	$ -
	77	9-Apr-16	USS Donald Cook	Gydnia, Poland	75	$ 2,342.45	$ 31.23	$ -
	83	20-Apr-16	USS Donald Cook	Riga, Latvia	92	$ 1,886.15	$ 20.50	$ -
	116	18-Jun-16	USS Truxtun	Copenhagen, Denmark	157	$ 3,035.00	$ 19.33	$ -
	153	24-Jul-16	USS Ross	Odessa, Ukraine	199	$ 5,271.54	$ 26.49	$ -
FY17	59	8-May-17	USS Ross	Haifa, Israel	200	$ 1,941.01	$ 9.71	$ -
	63	16-May-17	USS Oscar Austin	Varna, Bulgaria	106	$ 1,909.37	$ 18.01	$ -
	112	22-Sep-17	USS Porter	Bar, Montenegro	118	$ 2,279.11	$ 19.31	$ -
FY 18	17	1-Mar-18	USS Mount Whitney	Naples, Italy	332	$ 4,128.73	$ 12.44	$ -
	25	21-Jan-18	USS Mount Whitney	Malta	287	$ 5,736.78	$ 19.99	$ -
	47	29-Mar-18	USS Mount Whitney	Libreville, Gabon	205	$ 3,986.69	$ 19.45	$ -
	87	16-Jul-18	USS Mount Whitney	Odessa, Ukraine	345	$ 6,899.50	$ 20.00	$ -
	103	15-Aug-18	USS Mount Whitney	Theoule sur Mer, France	517	$ 8,660.23	$ 16.75	$ -
	129	13-Sep-18	USS Mount Whitney	Thessaloniki, Greece	761	$ 13,863.22	$ 18.22	$ -

Adapted from S. Cuesta, email to authors, September 21, 2018.

The differences between Table 4 and Table 5 are seen in the final column, entitled Rental Equipment. Table 4 depicts events where rentals occurred, while Table 5 lacks this information in the last column. Shown in red, one event from each sample was purposely excluded from the analysis, as the two events in question were outliers within their respective sample sets which skews the data. That is to say, the cost per person was greater than three standard deviations away from the mean cost per person of the sample set. For example, from Table 4, a reception hosted by the *USS Spearhead (TEPF-1)* in FY2014 resulted in a cost per person of $163.02, nearly 20 standard deviations away from the mean cost per person of small ship receptions with rental equipment. Although Spearhead is not one a FFG, DDG, CG, or LCC, we initially kept it in the data set because it is a small naval vessel with not much storage space. The second excluded event was a reception not

requiring rental equipment in Table 5, hosted by the USS *Carney (DDG 64)*, entailing a cost of $383.27 per person (over 18 standard deviations away from the mean of small ship receptions without rental equipment). The master data set, including outliers and all events in Tables 4 and 5, can be found in Appendix E.

One of our many research questions is whether small ship events not requiring rental equipment result in lower event costs. We ran descriptive statistics in order to compare the two sample sets per the means, the standard deviations, and the sample sizes, in hopes of uncovering the relationship between the two data sets. Table 6, generated using Excel, contrasts the statistics of the sample with rental equipment on the left, compared with the sample not requiring rental equipment on the right. As the data illustrates, the mean cost of a small ship reception requiring rental equipment is $32.64 per person, while the mean cost of an event not requiring rental equipment is nearly 40% less expensive at $19.55 per person.

Table 6. Descriptive Statistics—ORF Events, FY2014–2018.

ORF Reception Per Person (in dollars) WITH Rentals			*ORF Reception Per Person (in dollars) WITHOUT Rentals*		
Mean	**$**	**32.64**	**Mean**	**$**	**19.55**
Standard Error		4.2533	Standard Error		1.6943
Median	$	22.59	Median	$	19.33
Standard Deviation		19.0212	Standard Deviation		7.3855
Sample Variance		361.8067	Sample Variance		54.5451
Minimum		11.7137	Minimum		9.1579
Maximum		68.1171	Maximum		37.3500
Sample Size		**20**	**Sample Size**		**19**

Adapted from S. Cuesta, email to authors, September 21, 2018.

Our goal is to estimate the difference between the mean per-person-ORF-reception-cost, with rentals and without. Each sample set consists solely of independent events where every event in each set is distinct. Letting μ_1 represent the mean of the population *with* rental equipment and μ_2 be the mean of the population *without* rental equipment, we intend to make inferences on the relationship between μ_1 and μ_2.

μ_1 = mean of population 1 (all FY2014–2018 ORF small ship receptions *with* rentals)

μ_2 = mean of population 2 (all FY2014–2018 ORF small ship receptions *without* rentals)

We believe the cost per person for events with rentals is more than the cost per person for events without rentals. Our hypothesized difference between the two sample means, $\mu_1 - \mu_2$, is equal to the point estimator (D_0), which we set at \$5. Using $\alpha = 0.05$ as the level of significance, our hypothesis test is as follows:

$$H_0 = \mu_1 - \mu_2 \leq 5$$

$$H_a = \mu_1 - \mu_2 > 5$$

The t-test was simulated with various hypothesized mean differences, in increments of 5 from 0 to 10. Results showed there was strong evidence to reject the null with the hypothesized mean difference at both 0 and 5, but not at 10. We tested this hypothesis at the 5% level of significance, and Table 7 shows the results of our hypothesis via a t-test of two samples assuming unequal variances.

Table 7. t-Test: Two Samples Assuming Unequal Variances—ORF Events FY2014–FY2018.

Two-Sample t-Test Assuming Unequal Variances		
	WITH Rental	***WITHOUT Rental***
Mean	**\$ 32.64**	**\$ 19.55**
Variance	**361.8067**	**54.5451**
Observations	**20**	**19**
Hypothesized Mean Difference	**5**	
df	**25**	
t Stat	**1.7687**	
P(T<=t) one-tail	**0.0446**	

Adapted from S. Cuesta, email to authors, September 21, 2018.

The p-value of 0.0446 is less than the level of significance, therefore, there is compelling evidence to suggest that the null should be rejected. We are 95% confident that the cost per person of an ORF reception without rental equipment is at least \$5 less (per

person) than an equivalent reception with rental equipment. We further tested our hypothesis by developing an interval estimate between the population means for small ship ORF events per person costs with rentals, versus those without. The equation that will produce a range of values to better approximate the interval of difference between the two population means is as follows:

$$\bar{x}_1 - \bar{x}_2 \pm t_{\frac{\alpha}{2}} \sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$$

where 1 - α = confidence coefficient. The following values were used in calculating the interval estimate:

$\bar{x}_1 = 32.64$ $\quad$ $s_1^2 = 361.81$

$\bar{x}_2 = 19.55$ $\quad$ $s_2^2 = 54.55$

$t_{\frac{\alpha}{2}} = 2.060$ $\quad$ $n_1 = 20$

$n_2 = 19$

Using these variables, the interval estimate was calculated to be between 3.66 (as the lower bound) and 22.52 (upper bound). Therefore, it is safe to assume that ORF events requiring rental equipment cost on average, between $3.66 and $22.52 more per person, per event. These results are congruent with the t-test performed earlier in the analysis. On average, each small ship reception averages 219 guests (refer to Table 2). Assuming the number of guests holds constant, this translates to higher overall event costs, between $801.54 and $4,931.88 more, when rental equipment is required. The actual historical average of rental equipment (when required) is calculated to be $2,377.68 (refer to Table 4), which corresponds nicely within our calculated interval estimate above.

Supposing that 50% of the annual 24 ORF-funded small ship receptions continue to require rental equipment, it can be estimated that those ORF events with rentals cost U.S. taxpayers between $9,618 and $59,183 more per year that those same events without rentals in CNE-CNA-C6F AOR alone. Extrapolating this data to encompass all the U.S. Navy Fleets (2nd, 3rd, 4th, 5th, and 7th) leads a price difference of $57,711 to $355,098

more, if the same percentage of small ship ORF receptions are hosted worldwide, with rented equipment instead of without. From a fiscal perspective, we conclude that there is perhaps an ORF model that uses taxpayer dollars more effectively than renting equipment in foreign ports.

E. PROCESS ANALYSIS

Understanding the ORF process is best done in layers. Well before fleet operational planners can put ink to paper on the commander's Concept of Operations (CONOP), they must seek inputs from an array of interested parties. Planning key leader engagements with U.S. allies and partners, both current and future, is an art form that involves months and sometimes years of planning. Within CNE-CNA-C6F, the N5 Plans and Policy team, along with regionally focused N51 (Europe Engagements) and N52 (Africa Engagements) teams, these plans are devised and seen through to maturity, incorporation, and execution. All the ORF event proposals throughout each fiscal year are compiled into the CNE-CNA-C6F ORF plan. This proposal goes up to the CNE-CNA-C6F N5 head of Plans and Policy for approval.

The overall ORF plan, which suggests event locations, dates, and hosting units or commands by name, must go through an outlined process. The plan, however, is just a proposal, as ORF events cannot actually happen until they have been officially requested with complete guest list, and funding has been appropriated. To understand each step in the ORF event process and its implications, this section gives an overview of the timeline leading up to the ORF event itself and then analyzes each required task, providing supporting evidence of its legitimacy.

1. Pre-Event ORF Timeline Overview

Figure 5 details the planning and processing events that ultimately result in a successfully completed ORF reception. The headings on the top of the figure explain the major time milestones, while the rows label the major players and events they are responsible for.

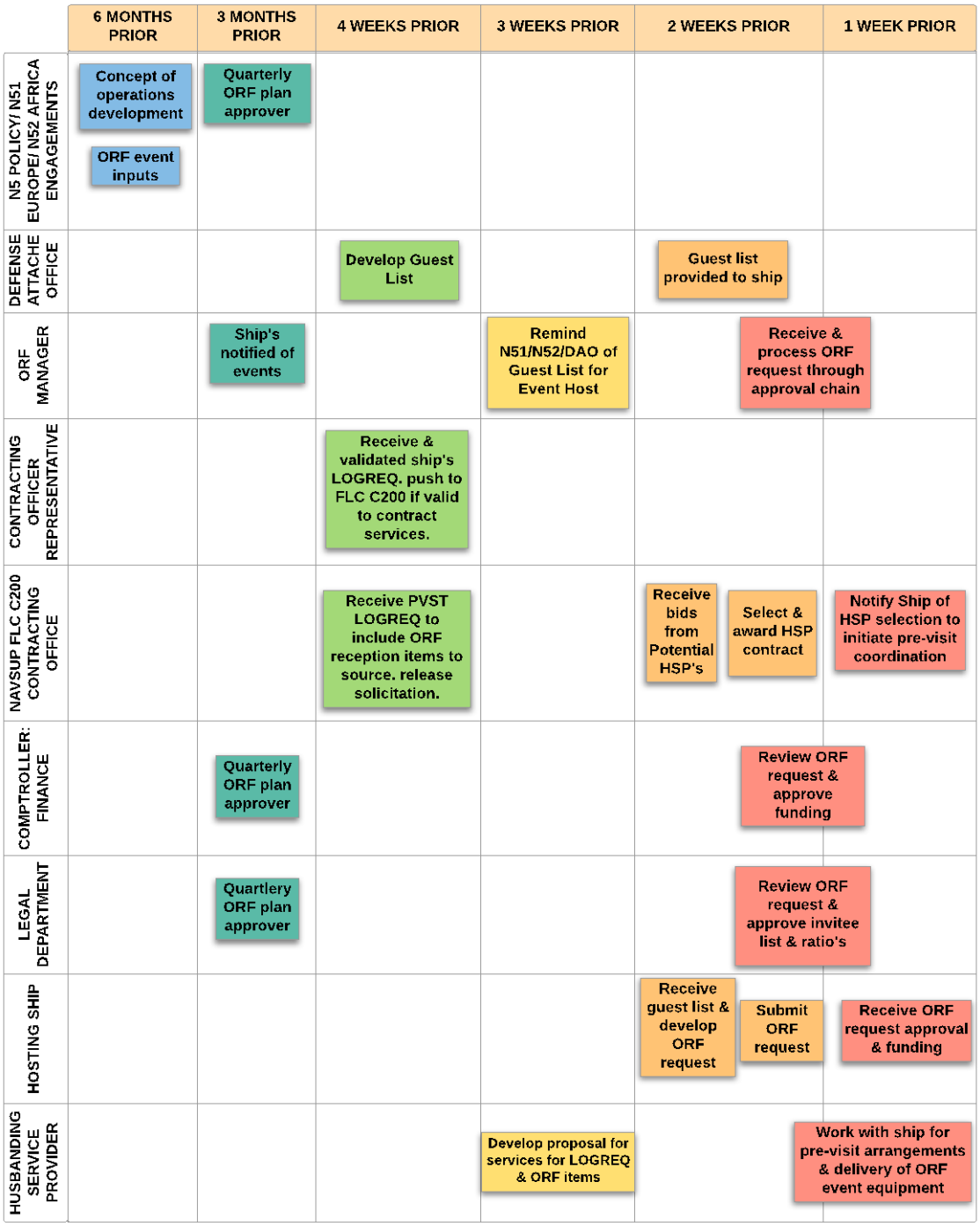


Figure 5. Pre-Event ORF Reception Timeline. Adapted from CNE-CNA-C6F (2017c).

Six months prior to the event, the CONOP development is done. This gives the participating units a description of how the operation will be conducted to accomplish the

mission and who is assigned to accomplish each part. Within the CONOP there will be a list of tasks assigned to each subordinate commander (United States Naval War College, 2013). If a unit is expected to host an ORF reception during a port visit, it will be in their list of assigned tasks.

ORF event inputs are drawn from the staff of CNE-CNA-C6F to include the Office of the Commander, Office of the Deputy Commander, Protocol, N5 Plans, N51 European Engagements, N52 African Engagements, N35 Exercise Operations Planners, and Commander Task Forces (CTF). The inputs are events projected to happen in the next fiscal quarter that have been closely coordinated with U.S. embassy staffs, foreign ministries, and the CNE-CNA-C6F operational planners.

Three months prior to the event, the Quarterly ORF Plan is approved. Once the ORF manager receives all the ORF event inputs from the staff of CNE-CNA-C6F, they will route the ORF plan proposal through the legal department, Comptroller, and then to the Chief of Staff for approval. If the host of a proposed and approved ORF event is a U.S. naval ship (like in the case of BALTOPS), it will be notified by the CNE-CNA-C6F ORF manager via email to initiate the planning process.

Four weeks prior to the event, the guest list is developed and sent to the ship. For shipboard events, the foreign invitee list is typically worked out between the U.S. embassy located in the host nation and the various ministries of their government. For shore events, the CNE-CNA-C6F Protocol Office will work with designated liaisons from the foreign government or military to obtain the listing of foreign invitees.

A ship will release its Logistics Request (LOGREQ) via unclassified and classified naval message traffic. One of the recipients of the LOGREQ will be a contracting officer representative (COR) located within the CNE-CNA-C6F N41 Logistics Directorate. The COR will review and validate all requirements on the LOGREQ. If the ship has included items outside of the standardized LOGREQ, such as reception rental equipment, the COR will validate and define the requirement with the ship's supply officer. Once validated, the LOGREQ will be forwarded to the Contracting Office of the NAVSUP Fleet Logistics Center in Naples. A contracting specialist will review and clarify the requirements if

needed. Once all requirements have been validated, the contracting specialist will prepare the request for proposal that will be released for the regional HSPs to make a bid on providing the requested services.

Three weeks prior to the event, the CNE-CNA-C6F ORF manager will send a reminder to the Defense Attaché Office, N51 and N52 teams to provide the event host a complete invitee list no later than 15 days prior to the event. The invitee list is essential for the ORF request to be approved in a timely manner. An ORF request cannot be approved until the legal team has determined that the invitee list has met the guest ratio requirements for a sufficient number of personnel eligible to receive ORF courtesies.

Regional HSPs are then solicited to provide a response to the request for proposal submitted by the NAVSUP Fleet Logistics Center (FLC) Naples Contracting Office if they want to be considered for contract award of a port visit. This is important to the ORF process if the ship has requested reception equipment rentals. The perspective contractors are given a deadline for which to submit their proposal to the contracting office.

Two weeks prior to the ORF event, a complete foreign guest invitee list is due to the ORF event host. For shipboard ORF events, these lists are typically derived from the U.S. Embassy Defense Attaché Office located in the host country. The invitee list provides the full name, rank (if military), title, organization, and country of each invitee.

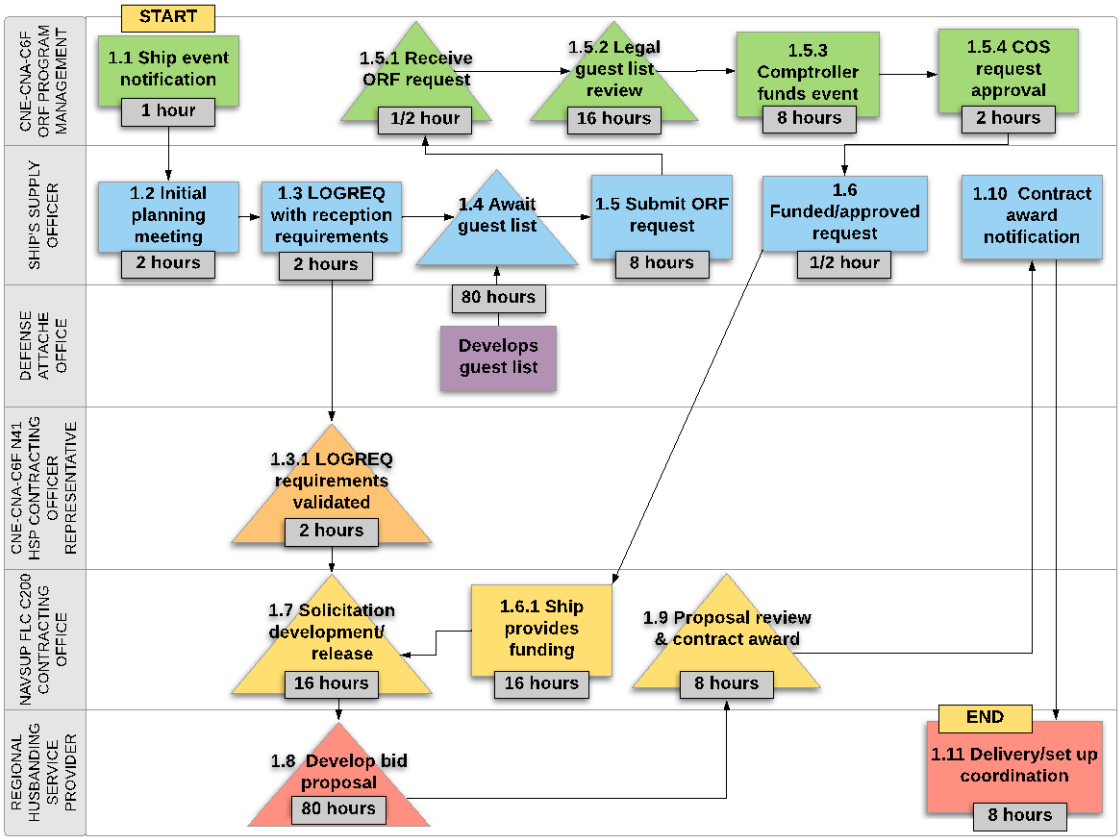
Once the ORF event host develops their complete ORF request with invitee list, they will send it to the CNE-CNA-C6F ORF manager. It is processed and signed for approval through a chain of personnel to include the ORF manager (ensures request is complete and assigns document control number), legal department (validates invitee list to ensure it meets the required ratio of eligible invitees), comptroller (applies funding line of accounting based on number of approved invitees), and chief of staff (bottom lines the request for the event to take place).

Once the bidding window has closed, the FLC Naples Contracting Office will gather and review the submitted proposals. A contractor will be selected based on meeting the necessary criteria for fulfilling the requirements and providing the best value to the government.

One week prior to the event, the CNE-CNA-C6F ORF manager will provide the ORF event host with an approved and signed ORF request to include funding in the form of a line of accounting that will allow the ship's supply officer to expense the costs of hosting the event. The FLC Naples contracting officer will notify the ship's supply officer of the name of the HSP contractor that will support their port visit and any ORF reception equipment needs. At this point, the ship's supply officer is able to coordinate with the HSP regarding the delivery of services contained within the port visit contract.

2. Current ORF Reception Man-Hour Process Analysis

In order to analyze the number of man-hours spent overall per ORF event, a process flow chart was constructed. It was necessary to determine the sequence of events and how long each task takes to calculate the total time and number of tasks required. Figure 6 is a flow chart that shows each step of the ORF reception process. It includes the key players in the far-left hand column as well as how long each step takes throughout the process.



Adapted from CNE-CNA-C6F (2017c) and S. Cuesta, email to authors, September 21,2018.

Figure 6. ORF Process Flow Chart

Task 1.1: The CNE-CNA-C6F ORF manager takes the newly approved quarterly ORF plan and notifies all hosting units or commands via email of the event they need to start planning for and the guidance and forms that are necessary to get the ORF event approved.

Task Necessity: Each host needs ample notification to conduct a proper event. Emailing the future event hosts is an efficient manner of disseminating the information they require and establishing points of contact within the network of planners and country team personnel that will support the host all the way through event execution.

Task 1.2: The next step goes to the ship's supply officer, who will be the on-site event planner and requestor. When the ship is officially notified by CNE-CNA-C6F of the

impending ORF event, they will typically hold their own planning meeting to refine the event requirements and desired end state.

Task Necessity: This is a true assessment of the ship's preparedness for the event. The results of this meeting will tell the ship what requirements exist that are not currently supported by material or provisions onboard. This becomes the new starting point from which the ship can prepare itself for hosting the ORF event.

Task 1.3: If the ship identifies equipment rental and shore-based materials procurement as a necessity for hosting their shipboard reception, the ship will include those requirements in the LOGREQ naval message that departs the ship and is received by units that will be providing support.

Task Necessity: A LOGREQ is a mandatory message required of all U.S. Navy vessels wishing to request a port visit. It is the secure manner in which ships relay their sensitive schedule, details of the unit, crew composition, and all the pier side support they will require in that port.

Task 1.3.1: If the hosting ship identifies rental equipment and material needed to host the event, they include those items in their LOGREQ. The LOGREQ is then vetted and approved by the Fleet staff and sent to NAVSUP FLC for Contracting.

Task Necessity: Vetting of LOGREQ requirements is a part of the new HSP process at all fleets. This is an accountability measure that protects from fraud, waste, and abuse in the port services contracting.

Task 1.4: The entity providing the invitee list for the ORF event, typically the U.S. Defense Attaché Office in the hosting country, has until 15 days prior to the event to develop a full foreign invitee list and provide that list to the hosting ship. This procedure follows the CNE-CNA-C6F ORF instruction.

Task Necessity: The invitee list is essential for the ORF request to be approved, as approval is based on meeting the DoD required ratio of personnel authorized to receive ORF courtesies. The embassy staff is given until 15 days prior to the event to provide the guest list because obtaining the required info from foreign nations may take many days.

Task 1.5: The supply officer completes and submits their ORF request once they have a full listing of both foreign and U.S. invitees for the reception.

Task Necessity: An ORF event cannot be considered for approval until a request and invitee list are provided to CNE-CNA-C6F for vetting.

Tasks 1.5.1–1.5.4: The ORF request approval process involves the ORF manager ensuring the request is complete and routed for approval. Next, the CNE-CNA-C6F Legal team reviews each listed invitee name, title, position, organization, and nationality to make a determination of eligibility for ORF courtesies and ensure the number of invitees meets the DoD required ratio. If the request passes the legal review, then the CNE-CNA-C6F Comptroller team identifies and obligates funding based on the approved number of invitees and the estimated per person event cost, based on the CNE-CNA-C6F ORF Instruction. Once the invitee list is approved, available funding is identified and earmarked, then the Chief of Staff, who is also the N5 Director of Plans and Policy, endorses the event, which gives the ship permission to plan and host the event.

Task Necessity: The DoD and SECNAV ORF instructions require invitee eligibility determination before an ORF event can be approved. The use of ORF funds is at the discretion of the commander; at CNE-CNA-C6F this position is held by a four-star admiral, who has delegated his one-star Chief of Staff to give authority for the expenditure of ORF funds. This approval process cannot be circumvented.

Task 1.6: The ship's supply officer receives a fully endorsed ORF request and funding document that allows them to continue planning for and hosting the event.

Task Necessity: Essential step for the hosting ship to make any further arrangements for the event.

Task 1.6.1: Before initiating the contracting process, the contracting officer (KO) needs a commitment of funding. The ship's supply officer uploads their funding document to the NAVSUP funding document manager (FDM), which ultimately gets those funds to the required contracting office.

Task Necessity: The FLC contracting office cannot entertain any contracting request that does not have funding support.

Task 1.7: The KO validates and requests clarity on each line item of the requirement they receive from the ship. This is to ensure the ship gets what they want and they properly identify the requirements in the solicitation that goes out to potential HSP in the region.

Task Necessity: Customer validation of requirements is a basic contracting function. Doing this thoroughly ensures that the contract is performed well, is on schedule, and is within budget.

Task 1.8: Once the contracting office releases the Request for Proposal to the potential HSP, they have a specified amount of time to respond with a bid if they wish to be considered as the contractor for the ship's port visit. The bidding HSPs will also be determining their ability to provide for the ship's requested rental equipment, so they most likely will have to identify and notify potential subcontractors in order to fulfill the requirements.

Task Necessity: Ideally, one HSP will be able to provide for all the requirements of the port visit, including ORF event rentals. If the contracting office is unable to identify a single provider, they may have more than one contractor, which is not ideal but can be done. Consideration for all bidding contractors and adequate time to respond to the solicitation are necessary steps in the port visit contracting process.

Task 1.9: Once the solicitation period ends, the KO will collect all submitted proposals and review them for completeness, correctness, responsiveness of the contractor, and cost. The proposal that fulfills all these requirements and is the best value for the government will most likely be selected for award.

Task Necessity: Contract award is essential for the ship to arrive in port and for services to be provided. The contracting officer is obligated to vet the contractor proposals in accordance with all federal contracting regulations. This task is essential and cannot be circumvented.

Task 1.10: After contract award, the ship and contractor are notified and put in touch with one another to officially start the customer-contractor relationship.

Task Necessity: Neither customer nor contractor can begin working together and providing services without formal notification of contract award. This task is essential and cannot be circumvented.

Task 1.11: The ship and HSP contractor utilize whatever time they have remaining until the port visit begins to work out details. Their coordination is essential for port visit and ORF event success.

Task Necessity: This period of planning and coordinating is crucial for ORF event success.

Now that each element of ORF event planning has been discussed, it is evident that it is a lengthy process, especially when renting ORF event equipment, requiring a formal contracting process. Most of the tasks described are essential and required steps in order for the ORF event to be approved, funded, and supported. In accordance with Figure 6, when rental equipment is involved we calculate the current process takes 250 man-hours per event. Conversely, the ORF event process takes only 126 man-hours when rental equipment is not required. This nearly 50% decrease in man-hours confirms our suspicions that the ORF process is overly lengthy, especially when rental equipment must be contracted. We contend there is a more efficient model, which is explored in Chapter V.

V. PROPOSED MODEL

A. INTRODUCTION TO OFFICIAL REPRESENTATION FUNDS PACK UP KIT

Repeated negative feedback provided to CNE-CNA-C6F spurred the quest to find alternatives to the current model, necessitating rental equipment for ORF events. Inspired by the aviation community's model, helicopter detachments take a large Pack Up Kit (PUK) complete with all the replacement parts potentially needed on deployment. Developing a PUK specifically for ORF events similar to the aviation PUK appears to be a potential solution for small ships lacking storage space for bulky event equipment. As previously stated, the biggest challenge among the deployed smaller naval units (FFG, DDG, CG, LCC) that have been tasked with hosting ORF events overseas is acquiring the necessary equipment to support receptions. We determined in the previous chapter that the rental process doubles the number of man-hours required and increases overall costs by $801.54 to $4,931.88 on average per event. Small naval units typically forgo investing in reception supplies and equipment due to their cost, the impact on ships' OPTAR budget, lack of storage spaces, maintenance needed to keep it in good condition, and frequency of use. Most of these small ships deploy with the expectation of renting equipment overseas when they are tasked to host an ORF reception.

The challenges these units encounter once they are assigned an ORF event mainly center around sourcing and funding rental equipment. The sourcing can be difficult because not all ports are created equal, and depending on the cultural and economic variances, they may not be able to fulfill the ship's requirements, or items are made available at exorbitant rates. Conversely, larger naval units such as aircraft carriers and amphibious assault ships have enormous hangar bays under which they can host their event and numerous storage spaces onboard in which to store materials and equipment. These larger units do not generally have a requirement to rent equipment to support receptions they host, as discussed in Chapter IV.

In order to host an event that "maintains the standing and prestige of the United States" with our allies and partners, events should be of the highest caliber. That is to say,

the quality of presentation must be top tier, utilizing items that are in excellent condition and well suited for a formal ambience. The ORF PUK we are proposing to provide the ships would include a large heavy-duty outdoor tent with siding, folding tables, cocktail tables, tablecloths, tent heaters, and a portable bar. The flight deck on a small ship is the largest, safest, and most unobstructed place to host any gathering of more than 50 participants. This is the reason that the flight deck is frequently chosen as the reception location. With the openness comes exposure to the elements of cold, heat, wind, and rain. By having a large heavy-duty tent with siding, the guests and ship's company in attendance can be protected from the environmental elements if needed. Rectangular folding tables are necessary for displaying food items, holding headgear of visiting military guests, and displaying décor. Round cocktail tables support the guests by providing a place to rest their food plates and beverages while they are holding conversations with other guests. Tablecloths dress up the tables and add to the overall ambiance of the event. Tent heaters are frequently needed during the fall, winter, and spring months due to the lower outdoor temperatures, to keep the guests comfortable during the reception on the flight deck. A portable bar raises the overall level of presentation at the event and gives the guests a clear target where they will fill their glasses. The described contents of the ORF PUK would be packed in hard cases that are ideally custom designed with pre-cut locations for each item to ensure they are well protected during storage and transportation. The cases would be reusable hinged wooden crates, or hardened plastic cases, for ease of transportation. The aforementioned items are commonly rented, compact or foldable, and reasonably easy to crate, which will standardize the events nicely by providing all necessary infrastructure.

B. LOGISTICS PLANNING FACTORS

There are many factors that go into creating a PUK besides the material itself. The logistics planning factors analyzed in this study are proposed locations, storage/cargo handling, and transportation.

1. Proposed Locations

Determining the best fit for a logistics hub entails two main qualities which are capacity and capability. In reviewing U.S. military installations in Europe and Africa (a

full list of installations appears in Appendix D), it is evident that the United States has significant logistics capability in the region. The locations that specifically support U.S. Navy afloat units logistically while deployed in the region are Naval Station Rota, Spain; Naval Air Station Sigonella, Italy; Naval Support Activity Naples, Italy; Naval Support Activity Souda Bay, Greece; and Camp Lemonnier, Djibouti, Djibouti. A common thread between all these installations is the presence of a NAVSUP Fleet Logistics Center (FLC) Sigonella detachment, all of which come with Supply Chain Management capabilities to include the movement and storage of inventory. Although part of CNE-CNA-C6F AOR, Djibouti was specifically excluded from the following proposed locations because it supports U.S. 5th Fleet vice Sixth Fleet.

a. Rota, Spain

On the Southwestern coast of Spain between the towns of Rota and El Puerto de Santa Maria on the Bay of Cadiz is Naval Station Rota. The base supports 4,000 personnel and 35 tenant commands (CNIC, n.d.b). The base is supported logistically by NAVSUP FLC Sigonella Site Rota and Defense Logistics Agency Sigonella at Rota, Spain. FLC Rota has numerous services available to its customers, including Logistics Support Center (LSC) services; Supply Chain Management; Contracting Services; Hazardous Materials Management (CHRIMP Center); Household Goods Operation; Petroleum, Oil, and Lubricants (POL) Management; and Postal Services (CNIC, n.d.b). Of these available services, the ORF PUK will rely on the Logistics Support Center and Supply Chain Management to fulfill the requirements of storing, conducting inventory, and shipping and receiving for the kits. CNE-CNA-C6F is an existing customer of NAVSUP FLC Sigonella, receiving all the aforementioned services in support of operations across the AOR.

Naval Station Rota logistics infrastructure has the advantage of being supported by air, land, and sea. The runway can support both large military and commercial aircraft, including the USAF C-5 Galaxy. Commercial trucking from Rota is available to all EU countries. The base also receives Military Sealift Command (MSC) Combat Logistics Force (CLF) ships for the loading and offloading of provisions, cargo, mail, ammo, and petroleum products that will be transferred to and utilized by U.S. ships at sea.

b. Sigonella, Sicily, Italy

Along the central eastern shores of Sicily, Italy lies Naval Air Station (NAS) Sigonella. This base is home to over 7,000 personnel and 40 tenant commands (CNIC, n.d.a). This base is supported logistically by NAVSUP FLC Sigonella and Defense Logistics Agency (DLA) Sigonella. Services provided by DLA Sigonella include "managing hazardous materials, depot level repair part storage and distribution, and a complete range of material packing and shipping services" (DLA, 2018, para. 1). NAVSUP FLC Sigonella offers an expanded version of their regional sites, including LSC services, supply chain management, contracting services, hazardous materials management, household goods operations, POL management, postal services, and customs services. Both logistics commands are well positioned to support CNE-CNA-C6F in establishing storage, handling, inventory, and shipping and receiving of the ORF PUK.

NAS Sigonella as the central Mediterranean logistics hub for the Sixth Fleet AOR is well supported by air, land, and sea logistics. The airfield has hosted a variety of aircraft, including the USAF C-130, C-17, C-5, KC-135, and KC-10 as well as the Navy's P-3s, P-8s, C-2s, C-9Bs, C-40A, and C-130, along with numerous large commercial aircraft. Sigonella can support ground transportation of cargo to any EU destination. Trucks are ferried from Sicily to mainland Italy. By sea, NAS Sigonella is supported by Augusta Bay Port Facility, which can host both U.S. naval ships as well as CLF ships.

c. Souda Bay, Crete, Greece

In a protected inlet on the northeastern coast of the island of Crete is Naval Support Activity (NSA) Souda Bay. The detachment has grown to nearly a thousand personnel (both military and civilian) and is host to six tenant commands (CNIC, n.d.d). Logistics support onboard NSA Souda Bay is provided by NAVSUP FLC Sigonella Site Souda Bay. This site provides a limited version of the LSC services, supply chain management, contracting services, hazardous materials management, household goods operations, POL management, postal services and customs services (CNIC, n.d.d). Sufficient services and infrastructure exist to host the ORF PUK. Due to its remote island location, the Navy base on Crete is mostly serviced by air and sea.

d. Naples, Italy

In late 2000, U.S. Sixth Fleet was combined with U.S. Naval Forces Europe from London and their headquarters was moved to their current home at Capodichino in Naples. Today NSA Naples is host to over 50 commands and 8,500 personnel (CNIC, n.d.c).

Logistics support onboard NSA Naples is provided by NAVSUP FLC Sigonella Site Naples. This site provides a full complement of support services, including LSC services, supply chain management, contracting services, hazardous materials management, household goods operations, POL management, postal services, and customs services (CNIC, n.d.c). Sufficient services and infrastructure exist to host the ORF PUK.

NSA Naples' co-location with Naples International Airport and proximity make it an ideal logistics hub. This location is well support by air, land, and sea for shipments. The airfield is equipped to host C-40, C-130, and C-17 military transport aircraft as well as commercial aircraft up to the size of a Boeing 767 wide-body airplane. Naples can support ground transportation of cargo to any EU destination. By sea, NSA Naples is supported by the port of Naples and NSA Gaeta, which can host both U.S. naval ships as well as CLF ships.

2. Storage and Cargo Handling

CNE-CNA-C6F AOR offers several potential storage locations, with the following considerations:

- Strategic geographic location with U.S. presence
- Current U.S. naval bases with established logistics infrastructure to include transportation, storage, and cargo handling
- U.S. naval bases with Memorandums of Agreement (MOA) in place for storage of CNE-CNA-C6F assets

The PUKs would require transportation assets to deliver the material to where it is needed. The U.S. Navy utilizes all three components of TRANSCOM to fulfill its mission worldwide: Air Mobility Command (AMC), Military Sealift Command (MSC), and

Military Surface Deployment and Distribution Command (SDDC). Units deployed to the Naval Forces Europe and Africa AOR are primarily supported by AMC and MSC for postal, cargo, hazmat, ammunition, and provisions transportation. Both AMC and MSC have the capability and capacity to support material transportation at any of the Navy installations in Europe and Africa. The only limiting factor is the location's storage capacity, cargo handling capability, and the frequency of air and surface movements in support of deployed naval units.

Table 8 shows storage location and cargo handling capacity. For example, NAS Sigonella is able to store up to 5 PUKs, load on average 1 aircraft per day, load 2 CLF ships monthly, and support 4–5 air and 2–3 ground shipments per week.

Table 8. Storage and Cargo Handling Capabilities.

		Cargo Handling Capacity		
Locations	Storage Available	Aircraft	CLF Ship	Average Shipments
Spain (NS Rota)	2 PUKs	~1 daily	n/a	~3-4 weekly (air) ~2-3 weekly (Ground)
Sicily (NAS Sigonella/Augusta Bay)	5 PUKs	~1 daily	~2 monthly	~4-5 weekly (air) ~2-3 weekly (Ground)
Italy (NSA Naples)	2 PUKs	~1 daily	n/a	~3-4 weekly (air) ~2-3 weekly (Ground)
Greece (NSA Souda Bay)	n/a	~1 daily	~3 monthly	~2-3 weekly (air) ~1 weekly (Ground)

* (~) Average during normal operations, each location has surge capacity to meet demand.

Adapted from A. Molner, S. Osbourne, C. Gerber, D. Redden, J. Goldstein, P. Brown, D. Roncaioli, emails to authors, November 12, 2018.

Based on available warehouse storage space, both Naples and Rota can store up to two PUKs. Sigonella has ample storage space and can courtesy store up to five PUKs. At this time, FLC Souda Bay only has space for temporary storage of material that is passing through to deployed units. They are in the process of building a warehouse that may be utilized in the future. However, at this time, the PUKs would have to come from NAS Sigonella to be forwarded to either U.S. naval vessels or CLF units. Pre-positioning the

PUKs in locations with U.S. presence on host nation military bases provides the Navy with better control over storage and movement options. Cargo handling is considered the process of loading and unloading or packing and unpacking of cargo/material.

3. Transportation

There are three modes of transportation that could be utilized to move the ORF PUKs around the theater of operations. They are air, ground, and sea. Most proposed locations have the capacity to move at a minimum three to five air shipments and 1 ground movement weekly as depicted in Table 8. Additionally, surge capacity is available as demand requires.

a. Air

This is the most expeditious and preferred method of transport. For cargo to be eligible for intra-theater airlift, it must meet the criteria of Transportation Priority (TP) I or II. Transportation priority determination is a combination of urgency of need (UND) A, B, and C and Force or Activity Designator (FAD) I–V. UND A category is used for material that is "required for immediate end use and without which the force or activity is unable to perform its assigned operational mission" (Department of Defense [DoD], 2015 p. AP2.14-1). UND B is used for material that is classified as "required for immediate end use and without which the capability of the force or activity to perform its assigned operational mission is impaired" (DoD, 2015, p. AP2.14-2). FAD II may be assigned by the Fleet Commander to "U.S. combat, combat ready, and direct combat support forces deployed to or operating outside the 50 states and adjacent waters" (Department of the Navy [DoN], 1997, p. 3–46).

As ORF events bear strategic implications for the United States, they are essential to the combatant commander's theater mission. The Fleet Commander directs naval units to conduct these engagements and considers them part of mission fulfillment. The contents of the ORF PUK are critical to hosting events that demonstrate the prestige of the United States and without the items, the units would not be able to fully complete their mission. As such, it is appropriate for the ORF PUK to be assigned FAD II/UND A, qualifying it as

TP II and making it eligible for airlift. Table 9 depicts this process of aligning the UND with the FAD to determine the priority designator, which determines airlift eligibility.

Table 9. Priority Designators by FAD. Source: DoN, (1997).

Urgency of Need Designator		FAD Priority Designator				
		I	II	III	IV	V
A	Unable to Perform	01	02	03	07	08
B	Performance Impaired	04	05	06	09	10
C	Routine	11	12	13	14	15

Intra-theater air transport of the ORF PUK will be coordinated by the CNE-CNA-C6F ORF manager and CTF 63 utilizing MILAIR, AMC channel services, and commercial lift. CTF 63 will make use of its scheduled aircraft, in conjunction with AMC flights and commercial means that are already being utilized to transport cargo and mail to the unit. The ORF PUK would essentially piggyback with the priority material already scheduled to be delivered to the ship. Air transportation would be funded by the appropriate Transportation Account Code (TAC) as provided by CNE-CNA-C6F.

b. Ground

While not the preferred method of transport, in some instances it may be necessary to move the PUKs via ground transportation. These arrangements will also be coordinated between the CNE-CNA-C6F ORF manager and CTF 63. The PUKs will be consolidated with other material already scheduled to be delivered to the requesting unit. Ground transportation would be funded by the appropriate TAC as provided by CNE-CNA-C6F.

c. Sea

Whenever the selected ship hosting the ORF event is scheduled to have a Replenishment at Sea (RAS) prior to their port call, the PUK would be sent to a port for loading. In the Mediterranean, these consul events usually take place at either Souda Bay, Augusta Bay, or Rota. The PUKs would be consolidated with other material already

scheduled to be delivered to the requesting unit. Delivery via CLF would be funded by the appropriate TAC as provided by CNE-CNA-C6F.

C. PROJECTED PUK COSTS

Of the varying items historically rented for ORF receptions, this rental data was compiled and analyzed for every small ship ORF reception from FY2014 through FY2018, with the goal of identifying trends in necessary items. After pinpointing those frequently needed items, consumables and pilferable items were excluded. That process, coupled with experience, led us to the following eight items: (1) enclosed tent, (6) rectangular tables and tablecloths, (8) cocktail tables and tablecloths, LED lighting, (2) heaters, and (1) portable bar. The aforementioned items are all not commonly found on U.S. naval warships, and the enclosed tent is the single most expensive item that is required.

The average price of a single PUK was calculated by researching each of the above eight items and identifying four sources of procurement. This detailed market research can be found in Appendix E. We then took the average of the four quotes per item in order to find the average individual price. This average individual price was multiplied by the recommended quantity, arriving at an average total cost per item. The total cost of all recommended PUK items sums to $3,582.73, which is shown in Table 10, a summary of Appendix E. For example, we suggest 8 cocktail tables should be included in the PUK at an average cost of $62.08 each, which equates to a total purchase price of $496.64.

Table 10. Summary of Appendix E (Market Research for Proposed PUK Equipment).

Item	Required Quantity	Estimated Cost (Each)	Estimated Cost (Total)
Enclosed Tent	1	$ 952.49	$ 952.49
Rectangular Table	6	$ 76.53	$ 459.18
Cocktail Table	8	$ 62.08	$ 496.64
LED Lights	1	$ 160.12	$ 160.12
Tablecloth (Rectangular)	6	$ 25.44	$ 152.64
Tablecloth (Cocktail)	8	$ 27.57	$ 220.56
Heater	2	$ 291.81	$ 583.62
Portable Bar	1	$ 557.48	$ 557.48
Total			**$ 3,582.73**

Adapted from sources listed in Appendix E.

Subsequently, the question of how to package the PUK itself was addressed. In order to ensure the PUK could be shipped along with the ship's parts and supplies no matter what mode of shipment used, it is necessary to procure a reusable container that would be sturdy enough to be able to be shipped via air, ground, or sea. Ideally, the container would resemble a pelican case of sorts, complete with foam inserts in order to protect the items during shipment. The preformed foam interior would also force sailors to repack the container in a manner that preserves the useful life of the items. Upon assessing the approximate sizes for the eight above-mentioned items, we concluded the PUK would require two shipping cases: the first case at 48" x 48" x 96" and the second case at 48" x 48" x 48." Unfortunately, due to time constraints, the authors only received a single quote for two wooden reusable crates that are adequate but not ideal. The cost of the two oversized crates are $573.59 and $396.39, respectively, totaling $969.98. We estimate that hardened plastic, pelican case-type boxes with preformed foam inserts would be about $2,000, roughly double the estimate obtained. This will bring the total of a single ORF PUK, including packaging, to $5,583. It should be mentioned that the cost of contracting these PUKs is marginal, as FLCs provide contracting services to naval units.

Finally, the costs associated with transportation, storage, and maintenance must be addressed. The marginal costs of transportation are considered negligible, as the PUK

would be shipped with parts and food already being delivered to the ship. Regarding storage, we specifically looked at FLCs, vice Defense Logistics Agency (DLA) warehouses, in order to avoid costs and keep better accountability of the PUKs themselves. The FLCs contacted indicated that they provide courtesy stowage for material in their care. As previously mentioned, custody of the PUKs would transfer back and forth between the ship's supply officer and, theoretically, a custodian at the pertinent FLC. We propose that maintenance, such as laundering the tablecloths and inspecting items for damage, would be assigned to a sailor stationed at the FLC, thus also marginalizing costs.

D. COST COMPARISON

As previously seen in the statistical cost analysis (see Chapter IV), we looked for evidence to conclude that the cost per guest without rentals is less than with rentals. By running a t-test as well as calculating the interval estimate between the two population means μ_1 and μ_2, it was determined that ORF events requiring rental equipment cost on average between \$3.64 and \$22.54 more per person, per event. This information was extrapolated to encompass all small ship ORF receptions occurring in 6th Fleet annually, which equates to savings between \$9,618 and \$59,183 when rentals are not required.

As discussed in the previous section, the estimated cost of recommended items to be included in the PUK summed to \$3,582.73. This information is compared to the historical prices paid for comparable items, along with the net change in Table 11. For example, an enclosed tent costs \$2,602.42 on average to rent, while the average U.S. market price to buy is \$952.49, a savings of \$1,649.93 if purchased instead of rented.

Table 11. Comparison of ORF PUK Items vs. Comparable Rental Items.

Item	Qty	Historical Price (Average)	Market Price (Average)	Net Change
Enclosed Tent	1	$ 2,602.42	$ 952.49	-$ 1,649.93
Rectangular Table	6	$ 271.80	$ 459.18	$ 187.38
Cocktail Table	8	$ 318.00	$ 496.64	$ 178.64
LED Lights	1	$ 72.76	$ 160.12	$ 87.36
Tablecloth (Rectangular)	6	$ 168.42	$ 152.64	-$ 15.78
Tablecloth (Cocktail)	8	$ 199.52	$ 220.56	$ 21.04
Heater	2	$ 251.34	$ 583.62	$ 332.28
Portable Bar	1	$ 299.41	$ 557.48	$ 258.07
TOTALS		**$ 4,183.67**	**$ 3,582.73**	**-$ 600.94**

Adapted from sources listed in Appendix E and S. Cuesta, email to authors, September 21,2018.

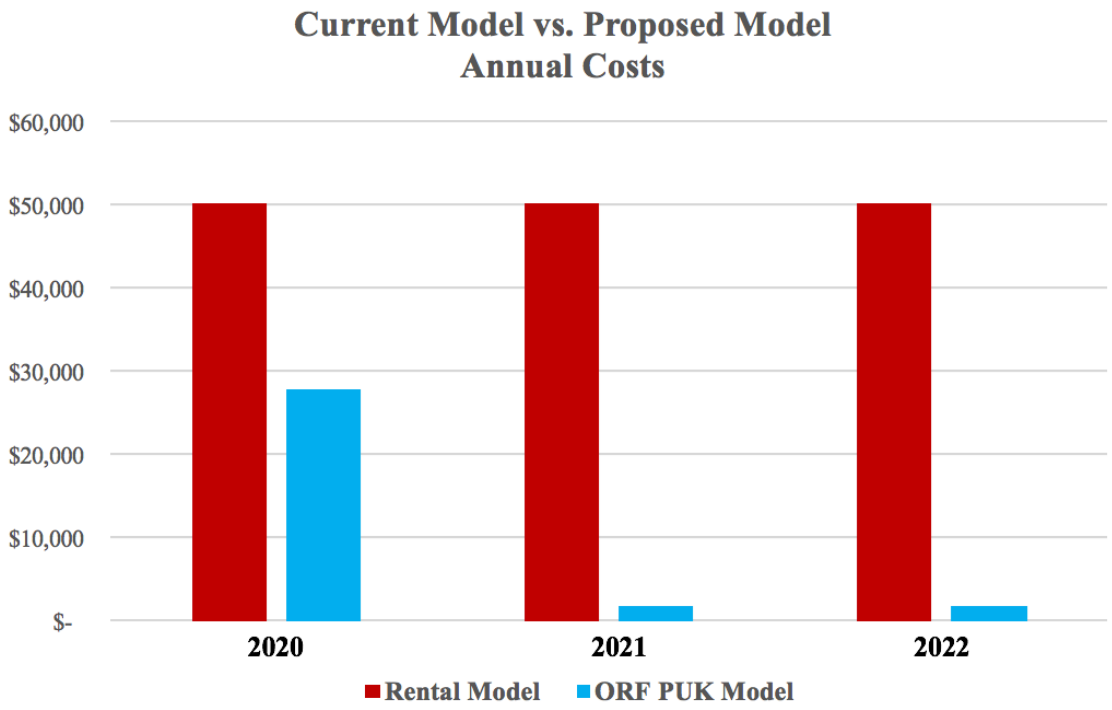
The ORF PUK packaging cannot be overlooked, and as discussed in the preceding section, we estimate the pelican case type container to cost approximately $2,000. Therefore, the total price of a single ORF PUK, including packaging, is estimated to be $5,583. With an average of 24 small ship ORF receptions occurring annually, we propose a total of five ORF PUKs will meet demand for use in the CNE-CNA-C6F AOR. This initial outlay would cost the U.S. Navy $27,915 (a total of 5 PUKs at $5,583 apiece) and would adequately cover the number of potential ships in theatre as well as the potential number of ORF events. As the ORF PUK costs $5,583 and the equivalent in historical rental equipment costs $4,184, the payback period is calculated to be 1.33 events.

We estimate a useful life of all PUK items (including the case) to be roughly three years, with the exception of tablecloths, which should be replaced annually, costing $350 per PUK, or $1866 for all 5 PUKs. CNE-CNA-C6F hosts 24 ORF-funded small ship receptions annually (see Table 2), of which roughly half require rental equipment. Utilizing historical rental prices for the same 8 items, 12 events costing $4,184 in rental equipment equates to $50,204 annually in rental equipment. The comparison between historical rental costs and proposed ORF PUK costs and financial savings over a three-year period are summarized in Table 12 and depicted in Figure 7 as well.

Table 12. Three Year Financial Outlay Comparing Rental Model vs. ORF PUK Model and Net Savings.

Year	Rental Model	ORF PUK Model	Net Savings
2020	$ 50,204.04	$ 27,913.65	$ 22,290.39
2021	$ 50,204.04	$ 1,866.00	$ 48,338.04
2022	$ 50,204.04	$ 1,866.00	$ 48,338.04
	$ 150,612.12	**$ 31,645.65**	**$ 118,966.47**

Adapted from sources listed in Appendix E and S. Cuesta, email to authors, September 21,2018.



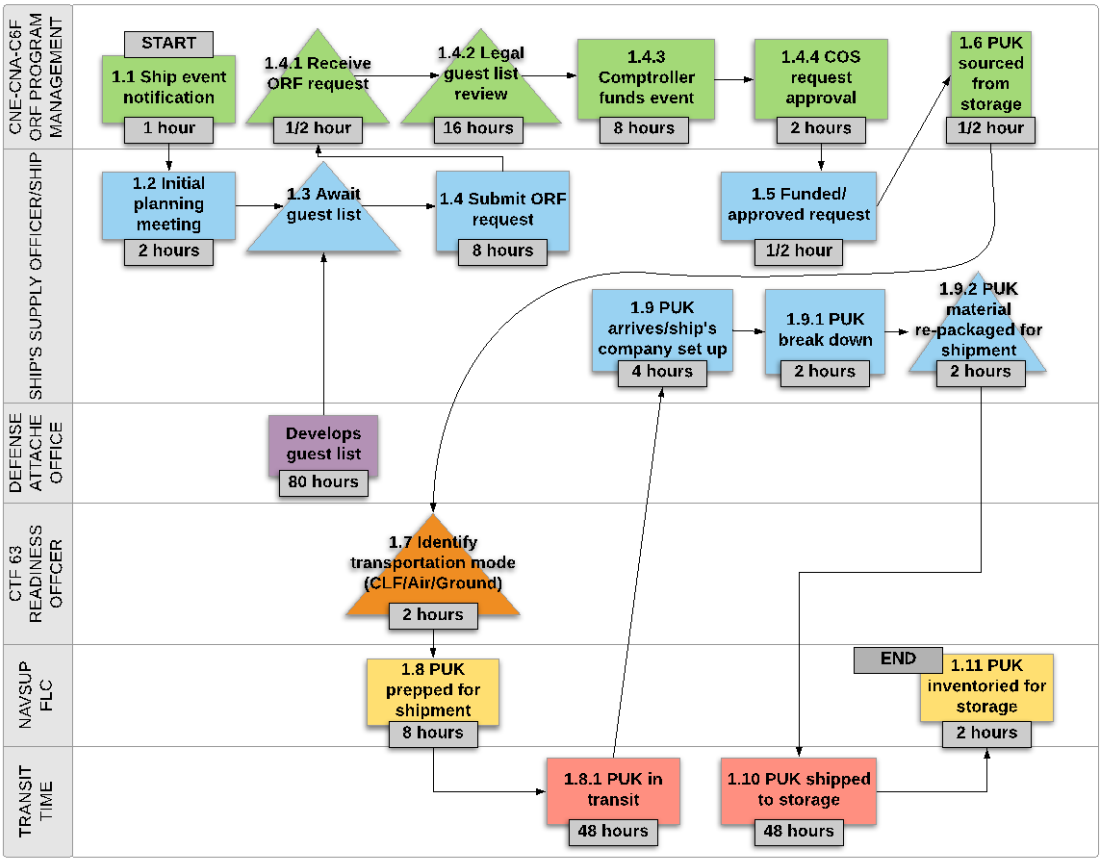
Adapted from sources listed in Appendix E and S. Cuesta, email to authors, September 21,2018.

Figure 7. Graphical Depiction of Table 12

E. MAN-HOUR/EFFICIENCY COMPARISON

If an ORF PUK were utilized, the process shown in Figure 6 (Chapter IV) would be shortened. Figure 8 shows an analysis of the new process showing each required task and supporting evidence of its legitimacy. Compared to the original process, the supply

officer's/ship's responsibilities increase by 5.5 hours, however the HSP and contracting office responsibilities are eliminated, saving 130 man-hours.



Adapted from CNE-CNA-C6F (2017c), sources listed in Appendix E, and S. Cuesta, email to authors, September 21,2018.

Figure 8. Process Flow Chart after PUK Implementation

The following describes the process shown in Figure 8.

Tasks 1.1–Tasks 1.5: These tasks do not change from the original ORF process.

Task Necessity: These tasks must occur in order to obtain a funded and approved ORF request, which ultimately enables the event to take place.

Task 1.6: ORF manager will source an available PUK from storage to be sent to the requesting ship. Material lift request is placed with CTF 63 for eventual movement of ORF PUK.

Task Necessity: Essential to start cost and time effective mobilization of ORF PUK.

Task 1.7: CTF 63 Readiness Officer will identify the best mode of transportation for the ORF PUK. This may consist of CLF, air, ground, or a combination of several. The ORF PUK may be paired with the requesting ship's material that is already en route.

Task Necessity: CTF 63 Readiness Officer is the authority used to schedule shipments to vessels. They are the most knowledgeable about all shipment methods in AOR.

Task 1.8: ORF PUK will be prepped for shipment by the storing FLC. They will prepare the shipping label and position the kits with the cargo and mail being shipped to the unit.

Task Necessity: Material cannot be shipped if it does not have the proper documentation.

Task 1.8.1: ORF PUK is shipped to requesting vessel. The ship's supply officer will be sent tracking information from CTF 63 Readiness Officer.

Task Necessity: This is how the ORF PUK will get from its storage location to the requesting ship's planned port of call and location of ORF event.

Task 1.9: When the PUK arrives at the port, the ship's company will break down the PUK items from the crates and bring them onboard, as well as set up the items on the flight deck.

Task Necessity: This is the manner by which the ORF PUK will be put to use.

Task 1.9.1–1.9.2: At the conclusion of the ORF event, the items will need to be broken down, wiped clean, and repackaged in provided shipping crates to prepare for shipment back to designated storage location.

Task Necessity: This is to ensure the lifespan of the items in the ORF PUK.

Task 1.10: The ORF PUK is shipped back to Point of Origin or to destination requested by CNE-CNA-C6F Program Manager.

Task Necessity: This will complete the use of the ORF PUK by the hosting ship and return it to storage.

Task 1.11: Once at the storage location, the PUK will need to be inventoried by the FLC personnel in order to ensure all items have been returned and are in serviceable condition. For any item not found in serviceable condition, the CNE-CNA-C6F ORF manager will be notified and the ship may subsequently be charged for damages.

Task Necessity: This keeps accountability of all PUK items and ensures that future use is made possible.

With each stage of the requesting process described in detail, we estimate the new process will take 138.5 hours, which is 111.5 hours shorter than the current process. Figure 8 illustrates this process and shows the man-hours for each step.

When comparing the processes in Figure 6 and Figure 8, one can see that the time involved has been reduced significantly. Table 13 shows the man-hour difference broken down by key contributors from the current process in Figure 6 and the proposed alternative process in Figure 8. There are many variances among the time it takes the key contributors to complete tasks in each of the processes. For example, the ship's supply officer and ship's company under the current process with rental equipment only has 12.5 hours of tasks to complete in order to execute an ORF event; this is mainly because the rental equipment would be set up by the commercial source. If the ship doesn't require rental equipment because they already have the required material onboard, then the time commitment is 20.5 hours due to the ship's crew having to also set up and break down the reception equipment. Under the proposed alternative process, the ship no longer has to release a LOGREQ with rental requirements, but they do have to set up, break down, and re-package the material, which is estimated to take 18.5 hours. The other significant man-hour expenditure difference lies in the contracting activities, which are estimated at 40 hours of work for the

contracting officer and 88 hours for the regional HSP. The proposed alternative process eliminates these hours all together.

Table 13. Man-Hour Comparison of Current Process and Proposed Alternative.

Key Contributors	Current Process with Rentals (man-hours)	Current Process without Rentals (man-hours)	Proposed Alternative (man-hours)
CNE-CNA-C6F ORF Program Manager	27.5	27.5	28.5
Ship's Supply Officer/Ship	12.5	18.5	18
Defense Attache Office	80	80	80
CNE-CNA-C6F N41 HSP Contracting Officer Representative	2	0	0
NAVSUP FLC C200 Contracting Office	40	0	0
Regional Husbanding Service Provider	88	0	0
CTF 63 Readiness Officer	0	0	2
NAVSUP FLC C430 Warehouse Operations	0	0	10
Total	250	126	138.5
Transit Time	0	0	96

Adapted from S. Cuesta, email to authors, September 21,2018.

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VI. RECOMMENDATIONS AND CONCLUSIONS

A. RECOMMENDATION

The two criteria to consider when making a recommendation with regard to the future of ORF events are as follows: Is the current model more cost effective than the proposed alternative? Is the current model more efficient from a labor perspective than the proposed alternative?

Beginning with financial considerations, the quantitative analysis in Chapter IV revealed that on average, $59,183 is spent annually on rental equipment alone for approximately 12 ORF events. The subpopulation of small ship ORF receptions was segregated into events with and without rentals, and running descriptive statistics produced means of $32.64 and $19.32, respectively. The quantitative analysis resulted in findings indicating that small ship ORF receptions not requiring rental equipment cost, on average, $3.64 and $22.54 less, per person and per event. The quantitative comparison in Chapter V concluded that the projected cost of select event infrastructure that would constitute the proposed ORF PUK would be cheaper overall to buy versus rent. Compared against the ORF PUK model, annual savings for CNE-CNA-C6F alone fluctuate between approximately $22,000 and $48,000, depending on the ORF PUK items' replacement cycle. Based on this, we assert that there is in fact an ORF model that more effectively uses taxpayer dollars.

The second research question revolves around efficiency and man-hours. In Chapter IV, we determined that over 250 man-hours were expended on ORF receptions with rentals, while those same events without rentals required only 126 man-hours, a 49.6% reduction in labor. In Chapter V, we explored the ORF PUK process and how man-hours were affected if implemented, in comparison with the ORF event without rentals. The investigation yielded a small 12.5-hour difference between the proposed ORF PUK model and those events not requiring equipment at all. The necessary 138.5 man-hours required by the ORF PUK model is still a 45% decrease from the current model of renting equipment. As the ORF PUK model described in Chapter V is not only more cost effective

than the current model, but also more efficient in terms of man-hours, it is believed that the ORF PUK should be adopted by CNE-CNA-C6F.

We propose a trial run based out of Sigonella with an initial outlay of two PUK prototypes, starting in FY2020. From a supply chain perspective, it makes the most sense to use NAS Sigonella, Sicily as the serving hub. All material going into and out of CNE-CNA-C6F is routed through NAS Sigonella, so it only makes sense to pool the PUK inventory in this location. Inventory pooling works best when there is high variability of demand by locations, which is the case with ORF events. Using the primary logistics hub for the region to store the PUKs provides the greatest number of opportunities to consolidate a PUK with shipments already destined for a requesting unit. We researched on storing the PUKs in multiple locations (NS Rota, NSA Naples, and NSA Souda Bay) as discussed in Chapter V however, a central location would provide the best economies of scale by reducing safety stock and eliminating variability of ORF events throughout the region. Additionally, having all PUKs in one location reduces the chain of custody issues, as only one warehouse custodian is needed for all five PUKs.

Figure 9 is a map showing proposed and selected locations. The smaller stars represent NS Rota, NSA Naples, and NAS Souda Bay, while the largest star represents the proposed ORF PUK hub, NAS Sigonella. The small dots represent all locations where small ship receptions were held between FY2014 and FY2018. Sicily is the proposed hub as all material going into and out of CNE-CNA-C6F is routed through Sicily therefore the PUKs would be married up with material headed inbound to or outbound from ships. As is seen, the centralized location of Sicily provides excellent prepositioning of the proposed ORF PUKs, capable of reaching all potential receptions in the Sixth Fleet. A full list of the ports can be found in Appendix G.

Adapted from U.S. Central Intelligence Agency (1998) and S. Cuesta, email to authors, September 21,2018

Figure 9. Map of ORF Event Locations and Logistics Hubs

With the goal of future implementation, we hope to forward our findings to CNE-CNA-C6F as well as NAVSUP Headquarters. In the long-term, we suggest adopting five PUKs for the AOR, five PUKs in theater should be more than adequate to support any number of potential events.

B. CONCLUSION

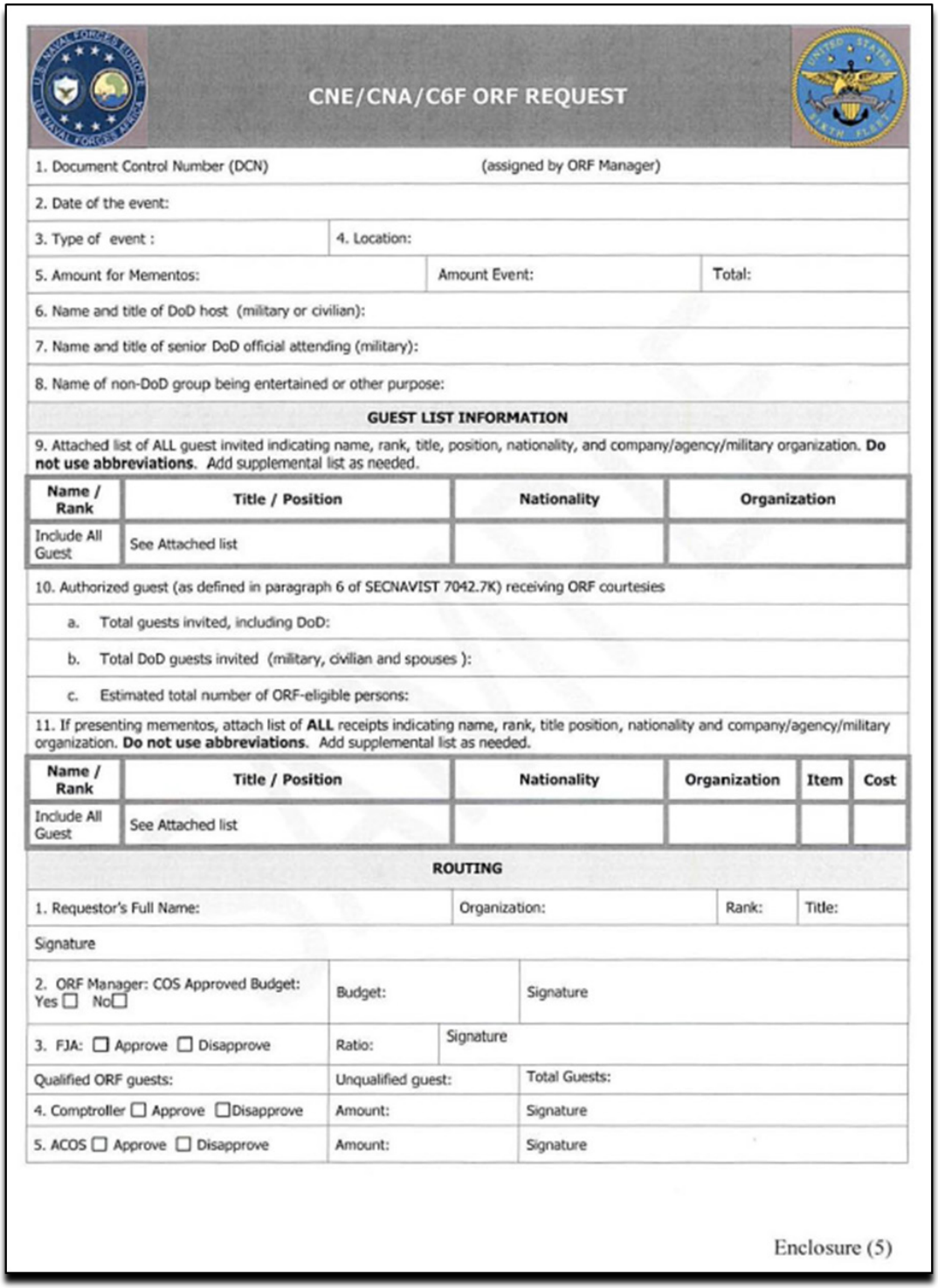
A combination of personal experience and overwhelming feedback from afloat supply officers provided the catalyst for this investigation. A quote from a peer echoes our sentiments perfectly and is an example of feelings fleet-wide:

> I see this as a benefit having been beat up by my COC to purchase reception material we never used prior to deployment, and having seen the routine SUPPO Nation emails about short fused reception requests and constantly changing ORF procedures, POCs, forms (requiring info the unit doesn't have), with burdensome lead times. (former DDG supply officer, former FLCSI assistant site director, October 2018)

There are two areas that will be left for future investigation. The first is the development of standard operating procedures (SOP) for the handling and issuance of the ORF PUK to be included in the CNE-CNA-C6F INST 7042.1D ORF Policy. Ships will receive this guidance prior to deployment to incorporate in their planning process. The second area is the creation of a new MOA between CNE-CNA-C6F and NAVSUP FLC Sigonella. This will serve to discuss the storage, handling, shipment, and fiscal arrangements of supporting the ORF PUK. There is future research available on this topic if the recommended trial run is implemented. After a year or two of ORF PUK usage, the CNE-CNA-C6F ORF manager will be able to determine if the ORF PUK indeed brought about event cost savings as predicted.

As stewards of taxpayer dollars, the cost effectiveness and efficiency of the ORF process is of utmost importance to us as well as to fellow supply officers. As these key leader engagements have such important strategic implications in upholding and maintaining the prestige of the United States, it is not only important to standardize the event to create an ambiance of uniformity but to reduce fraud, waste, and abuse within DoD spending. If implemented appropriately, the ORF PUK will create consistency within the ORF event itself, alleviate nearly 50% of the man-hours spent on organizing these receptions, and save the U.S. Navy approximately $22,000 to $48,000 annually in a single AOR. We believe that event planning can be streamlined, that necessary material can be more effectively sourced, and that ORF PUKs help solve a part of this problem for the U.S. Navy.

APPENDIX A. CNE-CNA-C6F ORF REQUEST FORM



CNE/CNA/C6F ORF REQUEST

1. Document Control Number (DCN)	(assigned by ORF Manager)		
2. Date of the event:			
3. Type of event :	4. Location:		
5. Amount for Mementos:	Amount Event:	Total:	
6. Name and title of DoD host (military or civilian):			
7. Name and title of senior DoD official attending (military):			
8. Name of non-DoD group being entertained or other purpose:			

GUEST LIST INFORMATION

9. Attached list of ALL guest invited indicating name, rank, title, position, nationality, and company/agency/military organization. **Do not use abbreviations**. Add supplemental list as needed.

Name / Rank	Title / Position	Nationality	Organization
Include All Guest	See Attached list		

10. Authorized guest (as defined in paragraph 6 of SECNAVIST 7042.7K) receiving ORF courtesies

a. Total guests invited, including DoD:

b. Total DoD guests invited (military, civilian and spouses):

c. Estimated total number of ORF-eligible persons:

11. If presenting mementos, attach list of **ALL** receipts indicating name, rank, title position, nationality and company/agency/military organization. **Do not use abbreviations**. Add supplemental list as needed.

Name / Rank	Title / Position	Nationality	Organization	Item	Cost
Include All Guest	See Attached list				

ROUTING

1. Requestor's Full Name:	Organization:	Rank:	Title:
Signature			
2. ORF Manager: COS Approved Budget: Yes ☐ No☐	Budget:	Signature	
3. FJA: ☐ Approve ☐ Disapprove	Ratio:	Signature	
Qualified ORF guests:	Unqualified guest:	Total Guests:	
4. Comptroller ☐ Approve ☐Disapprove	Amount:	Signature	
5. ACOS ☐ Approve ☐ Disapprove	Amount:	Signature	

Enclosure (5)

Source: CNE-CNA-C6F (2017c)

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APPENDIX B. CNE-CNA-C6F FINAL EXPENSE SHEET

CNE/CNA/C6F FINAL EXPENSE SHEET

1. Document Control Number (DCN)		(see approved ORF request)	
2. Date of the event:			
3. Type of event :	4. Location:		
5. Amount for Mementos:		Amount Event:	Total:
6. Name and title of DOD host (military or civilian):			
7. Name and title of senior DOD official attending (military):			
8. Name of non-DOD group being entertained or other purpose:			

GUEST LIST INFORMATION

9. Attached list of ALL guest invited indicating name, rank, title, position, nationality, and company/agency/military organization. **Do not use abbreviations**. Add supplemental list as needed.

Name / Rank	Title / Position	Nationality	Organization
Include All Guest	See Attached list		

10. Authorized guest (as defined in paragraph 6 of SECNAVIST 7042.7K) receiving ORF courtesies

a. Total guests Invited Including DoD:

b. Total DoD guests invited (military, civilian and spouses):

c. Estimated total number of ORF-eligible persons:

11. If presenting mementos, attach list of **ALL** receipts indicating name, rank, title position, nationality and company/agency/military organization. **Do not use abbreviations**. Add supplemental list as needed.

Name / Rank	Title / Position	Nationality	Organization	Item	Cost
Include All Guest	See Attached list				

ROUTING

12. Explain if goal (s) of event /mementos presentation was accomplished and how it was measured:

13. Self-assessment for future similar events:

14. Person receiving reimbursement:

15. If the Government Purchase Card (GPC) was used to pay for all or part of the expenses, complete the following:
a. Date of authorization or sub-authorization holder pre-approval for use of the GPC for the ORF event:
b. Description of item/ service received:
c. Cost:
d. GPC Holder:
e. Person verifying receipt of item/ *service (must be different from GPC card holder and individual must also initial the receipt verifying receipt of the items/ services):*

Signature	Organization:	Contact info: (email/ phone)

16. Commanding Officer of CNE-CNA-C6F Director Signature:

Organization:	Sub-authorization holder

Enclosure (2)

Source: CNE-CNA-C6f (2017c)

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APPENDIX C. CNE-CNA-C6F SUBPOPULATION DATA FY2014-FY2018

FY	DCN	Date	Ship	Location	Total Guests	Total ORF Event	Cost Per Person	Rented Equipment
FY 14	22	16-Dec-13	USS Monterey	Valletta, Malta	100	$ 6,342.36	$ 63.42	$ 2,707.93
	119	16-Jun-14	USS Ross	Rota, Spain	138	$ 3,754.75	$ 27.21	$ -
	107	8-May-14	USS Taylor	Batumi, Georgia	362	$ 3,949.60	$ 10.91	$ -
	102	24-Apr-14	USS Spearhead	Libreville, Gabon	86	$ 14,020.09	$ 163.02	$ -
	100	29-Apr-14	USS Vella Gulf	Haifa, Israel	150	$ 2,669.79	$ 17.80	$ 2,184.96
	92	13-Apr-14	USS Leyte Gulf	Cobh, Ireland	149	$ 3,540.76	$ 23.76	$ 891.77
	150	18-Aug-14	USS Vella Gulf	Batumi, Georgia	117	$ 2,324.65	$ 19.87	$ 200.00
	34	11-Feb-14	USS Donald Cook	Rota, Spain	170	$ 6,349.50	$ 37.35	$ -
FY 15	162	25-Sep-14	USS Carney	Rota, Spain	410	$ 3,754.75	$ 9.16	$ -
	154	1-Sep-15	USS Donald Cook	Odessa, Ukraine	208	$ 3,354.42	$ 16.13	$ 1,699.11
	132	4-Jul-15	USS Jason Dunham	Helsinki, Finland	127	$ 1,997.05	$ 15.72	$ 268.88
	120	15-May-15	USS McFaul	Rhodes, Greece	186	$ 2,176.37	$ 11.70	$ -
FY 16	153	24-Jul-16	USS Ross	Odessa, Ukraine	199	$ 5,271.54	$ 26.49	$ -
	83	20-Apr-16	USS Donald Cook	Riga, Latvia	92	$ 1,886.15	$ 20.50	$ -
	77	9-Apr-16	USS Donald Cook	Gydnia, Poland	75	$ 2,342.45	$ 31.23	$ -
	117	12-Jun-16	USS Porter	Constanta, Romania	89	$ 4,205.35	$ 47.25	$ 2,140.44
	116	18-Jun-16	USS Truxtun	Copenhagen, Denmark	157	$ 3,035.00	$ 19.33	$ -
	16	29-Oct-15	USS Porter	Split, Croatia	150	$ 2,854.06	$ 19.03	$ 1,550.00
	2	16-Oct-15	USS Winston S. Churchill	Piraeus, Greece	136	$ 3,211.34	$ 23.61	$ -
FY 17	112	22-Sep-17	USS Porter	Bar, Montenegro	118	$ 2,279.11	$ 19.31	$ -
	97	15-Aug-17	USS Oscar Austin	Theoule sur Mer, France	330	$ 6,165.30	$ 18.68	$ 421.06
	75	15-Jul-17	USS Hue City	Ukraine	247	$ 6,351.26	$ 25.71	$ 2,016.20
	63	16-May-17	USS Oscar Austin	Varna, Bulgaria	106	$ 1,909.37	$ 18.01	$ -
	59	8-May-17	USS Ross	Haifa, Israel	200	$ 1,941.01	$ 9.71	$ -
	39	23-Feb-17	USS Hue City	Tallinn, Estonia	253	$ 7,939.09	$ 31.38	$ 1,858.00
	27	20-Jan-17	USS Carney	Villfranche-sur-mer, France	184	$ 3,572.47	$ 19.42	$ 2,189.00
	21	19-Dec-17	USS Mason	Belfast, Ireland	160	$ 1,874.19	$ 11.71	$ 251.02
FY 18	59	24-Apr-18	USS Arleigh Burke	Tunesia	122	$ 6,745.10	$ 55.29	$ 4,351.75
	47	29-Mar-18	USS Mount Whitney	Libreville, Gabon	205	$ 3,986.69	$ 19.45	$ -
	31	10-Feb-18	USS Ross	Albania	122	$ 7,674.47	$ 62.91	$ 6,541.50
	25	21-Jan-18	USS Mount Whitney	Malta	287	$ 5,736.78	$ 19.99	$ -
	17	1-Mar-18	USS Mount Whitney	Naples, Italy	332	$ 4,128.73	$ 12.44	$ -
	11	9-Dec-17	USS Carney	Valletta, Malta	273	$ 4,999.38	$ 18.31	$ 3,755.47
	129	13-Sep-18	USS Mount Whitney	Thessaloniki, Greece	761	$ 13,863.22	$ 18.22	$ -
	127	7-Sep-18	USS Carney	Alexandria, Egypt	163	$ 6,586.06	$ 40.41	$ 4,860.00
	103	15-Aug-18	USS Mount Whitney	Theoule sur Mer, France	517	$ 8,660.23	$ 16.75	$ -
	102	29-Jul-18	USS Carney	Algiers	15	$ 5,749.01	$ 383.27	$ 4,007.02
	99	25-Jul-18	USS Winston S. Churchill	Tallinn, Estonia	109	$ 6,161.75	$ 56.53	$ 2,990.00
	87	16-Jul-18	USS Mount Whitney	Odessa, Ukraine	345	$ 6,899.50	$ 20.00	$ -
	82	25-Jun-18	USS Bainbridge	Oslo, Norway	205	$ 13,964.00	$ 68.12	$ 5,620.45
	80	5-Jun-18	USS Mount Whitney	Kiel, Germany	702	$ 15,035.35	$ 21.42	$ 1,056.08

Adapted from S. Cuesta, email to authors, September 21, 2018

Note: Items in red are outliers and were excluded due to being more than three standard deviations away from the mean

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APPENDIX D. EUROPEAN/AFRICAN OVERSEAS BASES BY BRANCH

U.S. Army	U.S. Air Force	U.S. Navy/USMC
USAG Benelux Army Base, Benelux, Belgium	Ramstein Air Force Base, Kaiserslautern, Germany	Naval Support Activity Souda Bay, Crete, Greece
USAG Brussels Army Base, Brussels, Belgium	Spangdahlem Air Force Base, Trier, Germany	Naval Air Station Sigonella, Sicily
Bezmer Air Force Base, Yambol, Bulgaria	Aviano Air Force Base, Aviano, Italy	Naval Support Activity Naples, Italy
GRAF Ignatievo Air Force Base, Plovdiv, Bulgaria	Lajes Field Air Force Base, Lajes, Portugal	Naval Support Activity Gaeta, Italy
Aitos Logistics Center Air Force Base, Aitos, Bulgaria	Moron Air Force Base Moron De La Frontera, Spain	Augusta Bay Port Facility, Sicily
Novo Selo Range Army Base, Novo Selo, Bulgaria	Incirlik Air Base, Incirlik, Turkey	Naval Station Rota, Spain
USAG Ansbach Army Base, Ansbach, Germany	Izmir Air Force Base, Izmir, Turkey	Naval Support Facility Deveselu, Romania
USAG Bamberg Army Base, Bamberg, Germany	RAF Alconbury, Alconbury, UK	Naval Support Facility Redzikowo, Poland
USAG Baumholder Army Base, Baumholder, Germany	RAF Fairford Air Force Base, Fairford, UK	Camp Panzer Kaserne, Boeblingen, Germany
USAG Darmstadt Army Base, Cooperstrasse, Germany	RAF Lakenheath Air Force, Lakenheath, UK	Camp Lemonnier, Djibouti, Djibouti
USAG Garmisch Army Garmisch Partenkirchen, Germany	RAF Mildenhall Air Force, Mildenhall, UK	
USAG Grafenwoehr Army Base, Grafenwoehr, Germany	RAF Menwith Hill Air Force Harrogate, UK	
USAG Heidelberg Army Base, Heidelberg, Germany	RAF Croughton Air Force Base, Northamptonshire, UK	
USAG Hessen Army Base, Hanau, Germany		
USAG Hohenfels Army Base Truppenubungsplatz, Germany		
USAG Kaiserslautern Army Base, Kaiserslautern, Germany		
USAG Stuttgart Army Base, Stuttgart, Germany		

U.S. Army	U.S. Air Force	U.S. Navy/USMC
USAG Wiesbaden Army Base, Wiesbaden, Germany		
Landstuhl Medical Center Army, Landstuhl, Germany		
Camp Darby Army Base, Tirrenia, Italy		
Caserma Ederle Army Base, Vicenza, Italy		
Camp Bondsteel Army Base, Ferizaj, Kosovo		
USAG Schinnen Army Base, Schinnen, Netherlands		

Adapted from Military Bases (n.d.)

APPENDIX E. MARKET RESEARCH FOR PROPOSED ORF PUK EQUIPMENT

Item	Qty	Source	Specifics	Cost	Average Each	Average Total
LARGE OUTDOOR TENT WITH SIDES (450 lbs)	1	pseauto.com	20' x 40'	$ 1,150.00	$ 952.49	$ 952.49
		amazon.com	16' x 32'	$ 679.99		
		shelterlogic.com	20' x 20'	$ 999.99		
		wayfair.com	20' x 40' (Outsunny Corporation)	$ 979.99		
6' FOLDABLE TABLE (180 lbs total)	6	uline.com	30 lbs each	$ 99.00	$ 76.53	$ 459.17
		walmart.com	30 lbs each	$ 38.88		
		homedepot.com	30 lbs each	$ 58.23		
		amazon.com	30 lbs each	$ 110.00		
ROUND COCKTAIL TABLES, 32" HEIGHT (160 lbs total)	8	amazon.com	20 lbs each; Flash Furniture	$ 47.26	$ 62.08	$ 496.62
		restaurantfurniture4less.com	20 lbs each	$ 113.00		
		walmart.com	20 lbs each	$ 50.56		
		webrestaurantstore.com	20 lbs each	$ 37.49		
ROPE LIGHTS FOR TENT, APPROX 150' (12 lbs)	1	homedepot.com	(3) sets of 48' incandescent rope kit	$ 105.54	$ 160.12	$ 160.12
		amazon.com	150' LED rope kit (Wyz Works)	$ 76.99		
		noveltylights.com	120' LED rope kit	$ 367.95		
		amazon.com	150' LED rope kit (Wintergreen)	$ 89.99		
TABLECLOTH FOR 6' FOLDING TABLE (18 lbs total)	6	linentablecloth.com	Fitted (loose) polyester	$ 45.79	$ 25.44	$ 152.64
		efavormart.com	Fitted (loose) polyester	$ 15.49		
		cvlinens.com	Spandex (tight)	$ 28.99		
		amazon.com	Fitted (Lann's Linens)	$ 11.49		
TABLECLOTH FOR 32" COCKTAIL TABLE (18 lbs total)	8	displays2go.com	Black 31" x 43"	$ 61.49	$ 27.57	$ 220.52
		tableclothsfactory.com	Black Cocktail	$ 12.79		
		yourchaircovers.com	Black Cocktail	$ 20.99		
		banquettablespro.com	30" x 42"	$ 14.99		
HEATER (40 lbs total)	2	safetycompany.com	5000 BTU/ 1500 Watt	$ 546.30	$ 291.81	$ 583.62
		wayfair.com	Patron 1500 Watt/ 5100 BTU	$ 254.99		
		amazon.com	TPI HF686TC 5600 BTU/ 4200 Watt	$ 266.95		
		uline.com	Portable Heater 1500 Watt/ 5100 BTU	$ 99.00		
PORTABLE BAR (37 lbs)	1	overstock.com	Trademark Innovations with case	$ 114.99	$ 557.48	$ 557.48
		portablebarcompany.com	Compact- 22" x 49"	$ 899.00		
		displays2go.com	61" with case	$ 390.46		
		wayfair.com	Foldable (no case)	$ 267.99		
PUK Total Price					$	3,582.66

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APPENDIX F. HISTORICAL RENTAL PRICES FOR RECOMMENDED ORF PUK COMPONENTS

DCN	Date	Item	Qty	Subtotal (Local Price)	Setup & Tax	Total (Local Price)	US $ Total	US $ Each
99	25-Jul-18	Enclosed Tent	1	$ 1,000.00	$ 564.30	$ 1,564.30	$ 1,564.61	$ 1,564.61
82	22-Jun-18	Enclosed Tent	1	$ 4,200.00	$ -	$ 4,200.00	$ 4,200.00	$ 4,200.00
117	12-Jun-16	Enclosed Tent	1	€ 1,800.00	€ -	€ 1,800.00	$ 2,060.44	$ 2,060.44
16	29-Oct-15	Enclosed Tent	1	$ 1,550.00	$ -	$ 1,550.00	$ 1,550.00	$ 1,550.00
75	15-Jul-17	Enclosed Tent- 10m x 15m	1	$ 1,550.00	$ -	$ 1,550.00	$ 1,550.00	$ 1,550.00
99	23-Feb-17	Enclosed Tent- 10m x 15m	1	$ 1,267.98	$ -	$ 1,267.98	$ 1,267.98	$ 1,267.98
91	10-Feb-18	Enclosed Tent- 10m x 15m	1	$ 568.00	$ 1,757.87	$ 2,325.87	$ 2,325.87	$ 2,325.87
96	18-Mar-18	Enclosed Tent- 15m x 21m	1	$ 7,258.75	$ -	$ 7,258.75	$ 7,258.75	$ 7,258.75
59	24-Apr-18	Enclosed Tent- 7m x 12m	1	$ 1,040.00	$ 604.09	$ 1,644.09	$ 1,644.09	$ 1,644.09
Enclosed Tent Average Price								**$ 2,602.42**

DCN	Date	Item	Qty	Subtotal (Local Price)	Setup & Tax	Total (Local Price)	US $ Total	US $ Each
104	10-Sep-17	Table- Rectangular	8	€ 101.00	€ 112.15	€ 213.15	$ 256.20	$ 32.03
99	23-Feb-17	Table- Rectangular	6	$ 68.94	$ -	$ 68.94	$ 68.94	$ 11.49
59	24-Apr-18	Table- Rectangular	6	$ 357.60	$ 207.71	$ 565.31	$ 565.31	$ 94.22
96	18-Mar-18	Table- Rectangular	10	$ 450.00	$ -	$ 450.00	$ 450.00	$ 45.00
91	10-Feb-18	Table- Rectangular	8	$ 196.00	$ 579.29	$ 775.29	$ 775.29	$ 96.91
127	7-Sep-18	Table- Rectangular	10	$ 852.00	$ -	$ 163.25	$ 852.00	$ 85.20
102	29-Jul-18	Table- Rectangular	8	$ 297.20	$ 56.47	$ 353.67	$ 353.83	$ 44.23
99	25-Jul-18	Table- Rectangular	7	$ 110.00	$ 62.10	$ 172.10	$ 172.13	$ 24.59
82	22-Jun-18	Table- Rectangular	8	$ 95.10	$ -	$ 95.10	$ 95.10	$ 11.89
100	29-Apr-14	Table- Rectangular	2	$ 44.00	0	$ 44.00	$ 44.00	$ 22.00
92	19-Apr-14	Table- Rectangular	6	€ 118.08	€ 11.32	€ 129.40	$ 184.38	$ 30.73
Rectangular Table Average Price								**$ 45.30**

DCN	Date	Item	Qty	Subtotal (Local Price)	Setup & Tax	Total (Local Price)	US $ Total	US $ Each
104	10-Sep-17	Cocktail Table	12	€ 183.00	€ 203.20	€ 386.20	$ 464.21	$ 38.68
27	20-Jan-17	Cocktail Table	5	$ 160.00	$ -	$ 160.00	$ 160.00	$ 32.00
59	24-Apr-18	Cocktail Table	3	$ 152.75	$ 88.71	$ 241.46	$ 241.46	$ 80.49
96	18-Mar-18	Cocktail Table	8	$ 343.75	$ -	$ 343.75	$ 343.75	$ 42.97
91	10-Feb-18	Cocktail Table	5	$ 91.90	$ 271.62	$ 363.52	$ 363.52	$ 72.70
11	9-Dec-17	Cocktail Table	20	€ 740.00	€ -	€ 740.00	$ 898.79	$ 44.94
127	7-Sep-18	Cocktail Table	20	$ 960.00	$ -	$ 163.25	$ 960.00	$ 48.00
102	29-Jul-18	Cocktail Table	20	$ 743.00	$ 141.16	$ 884.16	$ 884.56	$ 44.23
99	25-Jul-18	Cocktail Table	8	$ 80.00	$ 45.18	$ 125.18	$ 125.21	$ 15.65
82	22-Jun-18	Cocktail Table	8	$ 146.24	$ -	$ 146.24	$ 146.24	$ 18.28
22	16-Dec-13	Cocktail Table	10	€ 702.00	€ -	€ 702.00	€ 702.00	$ 70.20
100	29-Apr-14	Cocktail Table	8	$ 240.00	0	$ 240.00	$ 240.00	$ 30.00
150	18-Aug-14	Cocktail Table	8	$ 200.00	$ -	$ 200.00	$ 200.00	$ 25.00
112	21-Jun-16	Cocktail Table	12	€ 124.40	€ 30.23	€ 154.63	$ 181.24	$ 15.10
75	15-Jul-17	Cocktail Table	6	$ 108.00	$ -	$ 108.00	$ 108.00	$ 18.00
Cocktail Table Average Price								**$ 39.75**

Appendix F, (con't)

DCN	Date	Item	Qty	Subtotal (Local Price)	Setup & Tax	Total (Local Price)	US $ Total	US $ Each
75	15-Jul-17	LED Lights	4	$ 100.00	$ -	$ 100.00	$ 100.00	$ 25.00
99	23-Feb-17	LED Lights	1	$ 170.00	$ -	$ 170.00	$ 170.00	$ 170.00
102	29-Jul-18	LED Lights	4	$ 78.20	$ 14.85	$ 93.05	$ 93.09	$ 23.27
LED Lights Average Price								$ 72.76

DCN	Date	Item	Qty	Subtotal (Local Price)	Setup & Tax	Total (Local Price)	US $ Total	US $ Each
104	10-Sep-17	Tablecloth- Folding Table	8	€ 190.00	€ 210.97	€ 400.97	$ 481.96	$ 60.25
99	23-Feb-17	Tablecloth- Folding Table	6	$ 43.08	$ -	$ 43.08	$ 43.08	$ 7.18
27	20-Jan-17	Tablecloth- Folding Table	10	$ 18.00	$ -	$ 18.00	$ 18.00	$ 1.80
59	24-Apr-18	Tablecloth- Folding Table	6	$ 86.64	$ 50.32	$ 136.96	$ 136.96	$ 22.83
96	18-Mar-18	Tablecloth- Folding Table	4	$ 62.50	$ -	$ 62.50	$ 62.50	$ 15.63
91	10-Feb-18	Tablecloth- Folding Table	8	$ 196.00	$ 579.29	$ 775.29	$ 775.29	$ 96.91
21	19-Dec-16	Tablecloth- Folding Table	5	£ 62.50	£ 15.06	£ 77.56	$ 97.27	$ 19.45
82	22-Jun-18	Tablecloth- Folding Table	10	$ 126.79	$ -	$ 126.79	$ 126.79	$ 12.68
22	16-Dec-19	Tablecloth- Folding Table	10	€ 117.00	€ -	€ 117.00	€ 117.00	$ 11.70
100	29-Apr-14	Tablecloth- Folding Table	14	$ 936.00	0	$ 936.00	$ 936.00	$ 24.00
92	13-Apr-14	Tablecloth- Folding Table	6	€ 199.50	€ 13.99	€ 152.89	$ 217.85	$ 36.31
Tablecloth (Rectangular Table) Average Price								$ 28.07

DCN	Date	Item	Qty	Subtotal (Local Price)	Setup & Tax	Total (Local Price)	US $ Total	US $ Each
104	10-Sep-17	Tablecloth- Cocktail Table	12	€ 111.00	€ 123.25	€ 234.25	$ 281.57	$ 23.46
27	20-Jan-17	Tablecloth- Cocktail Table	10	$ 250.00	$ -	$ 250.00	$ 250.00	$ 25.00
59	24-Apr-18	Tablecloth- Cocktail Table	3	$ 43.32	$ 25.16	$ 68.48	$ 68.48	$ 22.83
96	18-Mar-18	Tablecloth- Cocktail Table	10	$ 312.50	$ -	$ 312.50	$ 312.50	$ 31.25
91	10-Feb-18	Tablecloth- Cocktail Table	5	$ 61.25	$ 181.03	$ 242.28	$ 242.28	$ 48.46
21	19-Dec-16	Tablecloth- Cocktail Table	4	£ 16.00	£ 3.81	£ 19.81	$ 24.84	$ 6.21
82	22-Jun-18	Tablecloth- Cocktail Table	10	$ 383.97	$ -	$ 383.97	$ 383.97	$ 38.40
22	16-Dec-19	Tablecloth- Cocktail Table	10	€ 105.30	€ -	€ 105.30	€ 105.30	$ 10.53
112	21-Jun-16	Tablecloth- Cocktail Table	12	€ 151.20	€ 36.74	€ 187.94	$ 220.28	$ 18.36
Tablecloth (Cocktail Table) Average Price								$ 24.94

DCN	Date	Item	Qty	Subtotal (Local Price)	Setup & Tax	Total (Local Price)	US $ Total	US $ Each
99	23-Feb-17	Heater	4	$ 260.00	$ -	$ 260.00	$ 260.00	$ 65.00
22	16-Dec-19	Heater	4	€ 648.00	€ -	€ 648.00	€ 648.00	$ 162.00
75	15-Jul-17	Heater	1	$ 150.00	$ -	$ 150.00	$ 150.00	$ 150.00
Heater Average Price								$ 125.67

DCN	Date	Item	Qty	Subtotal (Local Price)	Setup & Tax	Total (Local Price)	US $ Total	US $ Each
27	20-Jan-17	Portable Bar	1	$ 447.00	$ -	$ 447.00	$ 447.00	$ 447.00
11	9-Dec-17	Portable Bar	4	€ 500.00	€ -	€ 500.00	$ 607.29	$ 151.82
Portable Bar Average Price								$ 299.41

Adapted from S. Cuesta, email to authors, September 21, 2018

APPENDIX G. SMALL SHIP RECEPTION LOCATIONS FY2014-2018

Reception - Port Locations

Region				
Northern Europe	**Western Europe/Mediterranean**	**Eastern Europe/Mediterranean**	**Western Africa**	**Eastern Africa**
Plymouth, UK	Valletta, Malta	Burgas, Bulgaria	Nouakchott, Mauritania	Port Louis, Maritius
Karlskrona, Sweden	Marseille, France	Batumi, Georgia	Tangier, Morocco	
Riga, Latvia	Civatavecchia, Italy	Constanta, Romania	Casablanca, Morocco	
Klaipeda, Lithuania	Lisbon, Portugal	Istanbul, Turkey	Liberville, Gabon	
Haakonsvern, Norway	El Ferrol, Spain	Haifa, Israel	Luanda, Angola	
Helsinki, Finland	Kiel, Germany	Rhodes, Greece	Douala, Cameroon	
Tallin, Estonia	Zeebrugge, Belgium	Varna, Bulgaria	Tunis, Tunisia	
Copenhagen, Denmark	Theole Sur Mer, France	Gdynia, Poland		
Stockholm, Sweden	Ponta Delgada, Azores, Portugal	Bar, Montenegro		
Cobh, Ireland	Malaga, Spain	Vlore, Albania		
Belfast, Ireland	Toulon, France	Koper, Slovenia		
	Villefranche Sur Mer, France	Odessa, Ukraine		
	Genoa, Italy	Piraeus, Greece		
	Trieste, Italy	Split, Croatia		
	Amsterdam, Netherlands	Limassol, Cyprus		

Adapted from S. Cuesta, email to authors, September 21, 2018

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