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MBA PROFESSIONAL REPORT

**Spending Analysis of Government
Purchase Card Buys for
United States Navy Destroyers**

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December 2009**

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**SPENDING ANALYSIS OF GOVERNMENT
PURCHASE CARD BUYS FOR
UNITED STATES NAVY DESTROYERS**

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Submitted in partial fulfillment of the requirements for the degree of

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**NAVAL POSTGRADUATE SCHOOL
December 2009**

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ABSTRACT

Navy activities, especially ships, purchase the majority of the supplies with which they need to operate through the Naval Supply Systems Command using traditional requisitioning procedures as provided for by instruction. Some purchases, however, are made by utilizing commercial vendors and businesses both in the local community and by electronic means utilizing the Internet. The Government Purchase Card (GPC) program was instituted to minimize paperwork and facilitate the purchase of commercial goods and services from commercial businesses in the same manner as private citizens using their credit cards. The GPC is the preferred method to purchase and to pay for supplies or services not exceeding the micro-purchase threshold. The current system for requesting material to be purchased with the GPC lacks visibility above the shipboard level. COMNAVSURFOR has specifically requested this study in order to satisfy two specific goals: the first is to gain an understanding of the groupings of materials and services that GPC has been used to purchase. The second is to lay out a process for future implementation to gather information on monthly GPC procurements.

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LIST OF ACRONYMS AND ABBREVIATIONS

APC	Agency Program Coordinators
BQC	Basic Qualification Course
CLASSRON	Class Squadron
CNSF	Commander of Naval Surface Forces
FISC	Fleet and Industrial Supply Center
GAO	General Accounting Office
GPC	Government Purchase Card
IG	Inspector General
JWOD	Javits-Wagner-O'Day Act
NAVSUP	Naval Supply Systems Command
OPTAR	Operating Target
PAT	Program Audit Tools
TYCOM	Type Commander

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To my parents, who have supported and encouraged me without pause my entire life whether I deserved it or not, and to Sherry, my darling wife, who accomplishes more than she ever admits, is more important than she recognizes, and is more loved by me than I can ever fully express.

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I. PROBLEM IDENTIFICATION

A. BACKGROUND OF THE GOVERNMENT PURCHASE CARD PROGRAM

Navy activities, especially ships, purchase the majority of the supplies with which they need to operate through the Naval Supply Systems Command (NAVSUPSYSCOM, commonly NAVSUP) using traditional requisitioning procedures as provided for by instruction (NAVSUP P-485, 1997, p. 1007). Some purchases, however, are made by utilizing commercial vendors and businesses, both in the local community and by electronic means utilizing the Internet (NAVSUP 4200.99 , 2006, pp. 1-22). The Government Purchase Card (GPC) program was instituted to minimize paperwork and facilitate the purchase of commercial goods and services from commercial businesses in the same manner as private citizens using their credit cards (NAVSUP 4200.99 , 2006, pp. 1-1). The GPC is the preferred method to purchase and to pay for “supplies or services using simplified acquisition procedures, the aggregate amount of which does not exceed the micro-purchase threshold” of \$3,000 (FAR, 2009, p. 2.101). For commercial purchases over the micro-purchase threshold, contracting procedures following the requirements set forth in Federal Acquisition Regulations (FAR) must be followed.

The current system for requesting material to be purchased with the GPC lacks visibility above the shipboard level. COMNAVSURFOR has requested this study in order to satisfy two specific goals: the first is to gain an understanding of the types or categories of materials and services that GPC has been used to purchase; the second is to provide a process for future implementation to gather information on monthly GPC procurements (B.T. Drapp, personal communication, June 9, 2009).

B. CONCERNS ABOUT THE GPC PROGRAM

The purpose of the GPC program is to “streamline small purchase methods; minimize paperwork; eliminate Imprest Fund (petty cash); streamline payment processes; and simplify the administrative effort associated with traditional and emergent purchase of supplies and services” (NAVSUP 4200.99, 2006, p. 1-1). By utilizing Simplified

Acquisition Procedures (SAP) and Electronic Funds Transfer (EFT), governmental entities including the Department of Defense have enjoyed the ability to quickly purchase commonly available material on the open market using a payment method that is accepted worldwide (pp. 1-2, 1-3). The ease of final payment and commercial competition have saved the government time and money. However, the GPC's ease of use has also led to abuses by cardholders and others. Audits reveal problems or potential problems of fraud, waste and abuse in every agency audited (USD (C), 2002, p. v). Department of the Navy instructions that state that activities using the GPC will provide bulk funding, i.e., funds committed as a large pool as opposed to individual funding on a per-purchase basis, "to the maximum extent practical" (NAVSUP 4200.99, 2006, pp. 2-2) make tracking individual purchases difficult by higher echelon activities.

C. VISIBILITY AND WHY IT IS A PROBLEM

Navy Agency Program Coordinators (APCs) at the Type Commander (TYCOM) level lack sufficient visibility into GPC use at the unit level (B.T. Drapp, personal communication, June 9, 2009). Ships operate under a control system that does not satisfy Type Commander (TYCOM) requirements satisfactorily to ensure the TYCOM's statutory obligations are properly met. TYCOMs are obliged under 31 USC 1301(a) to ensure that the appropriated funds provided to them are only used to purchase goods and services not otherwise provided for by other appropriations (USC, 1982). The Secretary of the Navy policy SECNAVINST 7000.27A places fiduciary responsibility on Navy comptrollers to comply with sound financial practices by maintaining effective internal control systems for their organizations (2006, p. 2) and ensure "inadvertent or deliberate violations of statute or regulation" (p. 4) are avoided. SECNAVINST 5200.35E also emphasizes effective use of management controls and internal controls in maintaining reliable financial reporting (2006, p. 3). Ships operate under a series of regulations and internal controls that are audited by external organizations but are not directly audited by the TYCOM. The only direct information regarding the use of the GPC which TYCOMs receive is the amount of obligations the ships have incurred. The gross obligation data is

received monthly by the TYCOM and the only review in detail is performed quarterly by the Afloat Training Group (ATG), which reports its findings directly to the ship and not the TYCOM.

The lack of GPC usage visibility may be a vulnerability. The TYCOM is concerned that lack of control furthers the potential for waste, abuse or fraud in the program. Edmonds, Findlay and Johnson determined in their 2008 review of Navy cruiser (CG) consumable OPTAR account expenditures that over 36 percent of those expenditures for FY06 and FY07 were attributable to GPC buys. Unlike requisitions using the Navy supply system, which have a number of elements describing the material purchased, GPC buys do not have any such descriptive elements attached to them and are not currently classifiable into categories (e.g., expense element or federal supply group) (Johnson, Edmonds, & Finlay, 2008, p. 58). By analyzing the material that the GPC has been used to purchase, spending patterns may emerge that could assist the TYCOM in identifying positive and negative habits, which could be encouraged or discouraged to better manage the use of taxpayer dollars among subordinate units. These actions could be simple policy changes or specific changes in the manner in which purchases are made in order to achieve better cost savings for the TYCOM and the taxpayer. Addressing a control risk may lead to saving but also increases the likelihood of compliance with regulations and provides information for management decision-making.

D. CURRENT PROBLEM WITH EXISTING SYSTEM

Currently, the GPC system relies on hardcopy purchase requests, which can make management difficult. Hardcopy records are a barrier to visibility at the TYCOM level until agents of the TYCOM or the Navy physically review the hardcopies. Consequently, the TYCOM is unable to provide guidance to their subordinate units in a reasonable timeframe.

The primary policy guidance for use of the GPC within the Navy is NAVSUPINST 4200.99, Department of the Navy Purchase Card Program Policy (NAVSUP 4200.99, 2006, p. 2). This instruction provides the framework for commands utilizing the GPC and establishes both the basic internal controls to which ships are

required to conform as well as audit policy and fraud indicators. This policy provides for semi-annual reviews that examine past transactions but predominately provides a review of basic procedural compliance and acts as a check against fraudulent practices (NAVSUP 4200.99, 2006, pp. 3-2). Ultimately, this review verifies quality of procedural controls, i.e., *how* purchases were made, not necessarily quality of the purchases themselves, i.e., *what* was purchased. Quality of purchase is more closely related to the fiduciary responsibility of the TYCOM and the unit to provide for the best use of public monies within statutory requirements. Lacking an effective feedback process for TYCOM review of ship's purchases, CNSF is reliant upon the training of the junior officers responsible for the daily execution of the program. CNSF must trust the officer's judgment in cases where policy or regulation is unclear. While this is in essence no different from the relationship as it exists regarding stock-numbered supply system items, CNSF's concern regarding GPC use is different in that there is almost a limitless range of material that could be purchased were a unit's GPC system out of control. The risk of both financial and reputation damage is much greater with the GPC.

The TYCOM does not have any standardized system in place to know what consumable purchases are made among its subordinate units short of visiting the ships and reviewing their physical records. The TYCOM is able to provide appropriate guidance on how to best use available funding and require that statutory and policy requirements are followed; however, with limited knowledge of how OPTAR dollars are actually being obligated, verification that the guidance is adhered to occurs well after the purchases have been made. Without an easily reviewable purchase system in place, minimally there is the potential for waste or abuse and fraud of the program in a worst-case scenario.

Hardcopy purchase requests make detection of spending patterns difficult by limiting the approval or disapproval decision to the individual request at hand. The paper requests that are routed for approval under the current system contain no purchase history, so consideration regarding the material being requested is based solely on the merit of that request. Additionally, there is no accessible record of how much a given

division or department has spent using the GPC beyond the memory of those in the routing chain. Purchase-request history for material and dollars expended can be examined only by physical review of the paper requests and receipts, but these paper documents are organized by purchase date, not by division or type of material.

Without an effective review system, the risk of theft increases dramatically since pilferable items are not tracked to regularly validate their presence. While the risk of theft is not unique to GPC purchased items, the potential for theft exists. Waste of public monies becomes more likely, since multiple requests for the same item could be processed through the system. As with the difficulty in identifying spending patterns, determination of multiple requests for similar items rests upon the memory of the reviewer. The GPC request system in place contains step-by-step reviews and approvals of purchase requests on an individual request basis, but is not constructed to provide an interconnected review system to consider historical purchases. While property management itself is recognized as a legitimate concern in the management of material, it is beyond the scope of this study.

E. OBJECTIVE OF THE STUDY

The Commander of Naval Surface Forces (CNSF) has raised specific concerns regarding the spending habits of the vessels under his command and has requested an examination of purchase card habits of those ships. The purpose of this study is to analyze historical GPC spending patterns in a sample of five vessels to determine, through the use of discussions with card users and data collection, how the card is currently used, what is being purchased and to propose methods for the capture of purchase data for ongoing review by higher authorities.

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II. INFORMED FOUNDATION

A. PREVIOUS RESEARCH ON GPC

Analyses of DoD and Navy spending habits are numerous and have been conducted for many years. Executive Branch Inspector General (IG) reports (DoD Inspector General, 2009) and Legislative Branch GAO (General Accounting Office) Audits (United States Government Accountability Office, 2008) are both widely available and have tended to focus on abuses or misuses of the card. Information relating to purchases focused upon prohibited purchases. No research could be found focusing specifically upon legal or authorized card purchases.

B. RELATION TO ACCEPTED MODEL OR FRAMEWORK

Kenneth Merchant, an expert in management accounting and management controls systems in business, considers results controls used in business as a means for organizations to hold subordinate divisions or individuals accountable for particular outcomes. By identifying the desired results to middle- and upper-level managers, higher organizations can judge the success or failure of managers achieving the stated goal while maintaining a decentralized setting with “largely autonomous responsibility centers” (1985, p. 17). In essence, results controls identify desired results and allow managers to maintain their autonomy so long as those results are achieved. Within the Navy, there are legislative restrictions on how to make purchases, which is discussed in more detail below. Merchant further identifies three essential conditions that must be present for results controls to be effective (1985, pp. 20–21):

- Knowledge of what results are desirable
- The ability to control the desired results by the individual being influenced
- The results can be effectively measured

In the case of TYCOM control of ship GPC programs, the TYCOM knows what results or ends are desired, i.e., the readiness of the fleet to put to sea. The responsible use of the GPC program to acquire goods and services that are not otherwise prohibited

or provided are the means by which the ends are achieved. However, as Merchant and Van der Stede state: “Knowing what actions are desirable is not enough to ensure good control; organizations must have some ability to ensure or *observe* that the desired actions are taken” (2007, p. 81). The TYCOM has the authority to control its subordinate units but has a weakened ability to exercise control since it receives no direct feedback as to the ship’s actions. The effective measurement and verification of the desired result is the condition lacking in this instance. The controls do not exist and TYCOMs cannot currently measure the actions of the ships. It can be argued that what is needed is a diagnostic system, discussed below, to show sufficient detailed readings indicating the system is operating in the desired manner. While external audits can provide useful information regarding compliance with regulation, if a ship operates outside of the program requirements or engages in questionable practices, there is no immediate response the TYCOM can take that would have reasonable influence on the decision, *ex ante*. Any TYCOM responses based upon previous purchases can only influence later purchase decisions.

C. LEVERS OF CONTROL

Simons (1995, pp. 91–97) identifies four “levers of control” that are used to direct outcomes within an organization. These controls are:

- Belief Systems
- Boundary Systems
- Diagnostic Control Systems
- Interactive Control Systems

Belief and Boundary systems are considered “design attributes” and are foundational in nature. Functionally, this foundation consists of the personnel recruited to operate the system and the rules those personnel are to operate within. Diagnostic and Interactive systems monitor the actual system as it performs its function (Simons, 1995).

Belief systems represent basic values, purpose of the organization and mission and vision statements. In terms of the Navy’s use of personnel to manage the GPC

system, the ideas behind belief systems could be summarized as the user's core values. Since the Supply Officer on Navy ships is most often the onboard Agency Program Coordinator (APC), examination of a Supply Officer's core values as it relates to GPC management can be closely tied to his belief system. For Supply Officers, these core values begin at commissioning where selection of candidates is predicated on the Navy's core values of honor, courage and commitment and are reinforced in the Basic Qualification Course (BQC), where schoolhouse lessons in supply management and fiduciary responsibility are taught. Supply Officers are indoctrinated in a code of professional responsibility that emphasizes the importance of their role maintaining "an uncompromising degree of stewardship for public funds and property," and recognizes that when "tested by complex moral and ethical situations which go beyond the bounds of printed regulations, I will consider these rules only as a minimum standard. Ultimately, my conscience and personal sense of honor must guide me" (Supply Corps Code of Professional Responsibility, n.d.).

Boundary systems are the formal rules, limits, and proscriptions associated with systems that are instituted to counter expected risks and abuses in a system. For the GPC program, these boundaries include formal instructions and publications relating to the use of the card that can include pre-defined checks on program usage and local internal controls, e.g. commanding officer's review and approve any requests for material in excess of a dollar value they define. Use of the GPC card is prohibited for obtaining cash advances, purchasing vehicles or firework displays, for example (NAVSUP 4200.99 , 2006).

Diagnostics systems are meant to provide feedback regarding critical performance variables to monitor outcomes and correct deviations from system design. These often represent "ex post" evaluations of how the system has performed over a period of time. Among the diagnostic reviews of the GPC program are examinations of purchase history by the TYCOM APC through use of the Citibank Program Audit Tools (PAT) and quarterly reviews of the ship's program by ATG. These reviews provide feedback to the

ship regarding how well its program meets the criteria set forth by instruction. While thorough, these reviews often occur months after the purchases have been made by the ships.

Interactive control systems are meant to provide an opportunity for program managers to involve themselves into the process regularly to challenge and debate data. This interaction provides a means for those responsible for a program to provide the benefit of their experience to those actually executing the program while receiving information regarding challenges and successful practices from their subordinates. Simons emphasizes that management should be open to new ideas flowing up from the program executors so that they don't "constrain innovation and opportunity seeking" (Simons, 1995). Interactive controls exist within the ship between the person with the requirement, the division officer who validates the requirement as being necessary and the APC in approving the request. External to the ship, interactive controls occur to a limited extent between the ships and the Class Squadron (CLASSRON) when requesting funding augments and a justification is necessary prior to receiving funds. In most instances, GPC funding is exercised under the ship's existing budget, so justifications are most often not required.

D. SUMMARY

Merchant's results controls can be useful in controlling behavior if the desired results are known and can be controlled and measured by the managing organization. Simon's Levers of Control better define the complex interaction in play in the GPC system between people and their morals, restrictions in place through military instructions, diagnostic evaluations through program reviews, and interaction with superiors in the decision process. The TYCOM's concern over how the purchase card program is executed is centered around determining whether its subordinate units are using their funding appropriately. Most of the controls that are in existence focus on procedurally how to buy, not qualitatively what to buy. With no known prior examination of spending patterns on Navy ships, determining how the GPC program is being executed and what OPTAR funding is being used to purchase is essential in

determining the extent of involvement the TYCOM should consider implementing. Historical purchases will need to be analyzed to determine how the GPC program is actually being utilized on ships before recommendations can be made on improving any control systems.

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III. RESEARCH DESIGN

A. RESEARCH DESIGN

Prior to data collection, limited research parameters were set to limit the amount of operational impact on the subject units. The number of individual GPC transactions for a given period was unknown, and estimates regarding the number of purchases were based on anecdotal evidence. Variation among units was minimized by limiting the branch of military service being reviewed and comparing similar units under a single major type commander. By sampling ships of the same class in the same geographic region similarities and differences between the spending patterns of different ships were expected to be driven by similar factors. The number of ships reviewed was kept small in order to keep the data collected and analyzed manageable. The parameters selected are depicted in Table 1.

Table 1. Research Parameters

Service branch	Navy
Type commander	Commander, Naval Surface Forces (CNSF)
Class of ship	Guided Missile Destroyer (DDG)
Geographic region	Norfolk, Virginia
Number of ships to be reviewed	Five

B. BACKGROUND INFORMATION

Prior to reviewing the data from the ships, discussing the purchase card program as it is currently executed with those who have an active role in its use could yield insight on procedural problems with the program or other areas which could be improved upon. Meetings with the waterfront inspection teams, APCs and TYCOM representatives were held to acquire background information regarding perceptions about:

- Waterfront purchasing patterns
- Common inspection hits, critiques, findings
- Frequency of audits compared to requirements

- Audit findings
- Buys which are legal but discouraged
- Local procedures which are in effect but not required
- GPC buy vs. supply system buy decision
- Degree of CLASSRON involvement
- How ‘best/worst practices’ are disseminated among other APCs, other TYCOMs
- Quantity, quality of amplifying instruction (e-mail/naval message policy adjustments)
- Funding/manpower concerns in monitoring/executing GPC on ships

This information should yield qualitative information that could help explain the behavior of APCs on ships regarding how the decision is made regarding what to buy and where to buy. For example, if local instructions mandate multiple price quotes for material purchased from commercial vendors but not for SERVMART purchases, ships may be more apt to utilize SERVMART to avoid a perceived burden in researching competitive prices from other vendors.

C. DATA COLLECTION AND FORMATTING

The data provided by the subject vessels included:

- GPC requests which identify each item that has been requested
- Purchase receipts to compare requests to actual purchases
- GPC logs which show the amount, date and place of the actual purchase

Entering the information into an Excel spreadsheet format permitted subsequent manipulation of the data for analysis. The data were synthesized into the elements presented as column headings in Table 2. These elements were selected to identify information regarding the individual purchases made. For Table 2 these elements were:

- Qty- Quantity of the item purchased
- Description-Basic description of the item purchased
- 4400 Category-Classification based upon SURFSUP 4400.1 funding priorities
- UP-Individual unit price of one item

- EMV-Extended money value
- Store-Store where the item was purchased
- Month Received-Month the purchase was actually made
- Relevant Comments-Any amplifying information to assist the researcher in better classifying the material

Table 2. Excel Format for Data

Qty	Description	4400 Category	UP	EMV	Store	Month Received	Relevant Comments
1 EA	copy paper	Gen Consumable	\$ 12.44	\$ 12.44	Office Max	June	
4 EA	6 pk AAA battery	DC	\$ 3.12	\$ 12.48	Office Max	June	for NFTI

Initially, categorization of line item purchases was to be made using Federal Supply Group and Class codes, Table 3 as a guide. However, early in the data entry process, the researcher in consultation with CNSF determined this to be excessively cumbersome and would yield information likely to overwhelm the end user. Instead, a modified version of the categories from paragraph 7007 in the SURFSUP 4400.1, which identifies consumable purchases into six major categories, Table 4, was determined to be more useful. For purposes of this study, two additional categories were added for 1) repair parts (which per Navy instruction, should be purchased separately from consumable material) and 2) a category for material that does not fit well into any of the other seven categories or could not otherwise be identified.

Table 3. Sample of Federal Supply Group and Class Categories

56__ Construction & Building Materials
 58__ Communication & Detection Equipment
 59__ Electrical & Electronic Equipment Components
 5965 Headsets, Handsets, Microphones & Speakers
 61__ Electric Wire, Power & Distribution Equipment
 6135 Batteries, Dry
 62__ Lighting Fixtures
 6230 Electric Portable & Hand Lighting Equipment
 6240 Electric Lamps
 6250 Ballasts, Lampholders & Starters
 6260 Non-Electrical Lighting Fixtures
 6320 Shipboard Alarm & Signal Systems
 6350 Aircraft Alarm & Signal Systems
 65__ Medical, Dental Equipment & Supplies
 66__ Instruments & Lab Supplies

Table 4. SURFSUP 4400.1 “Other” Categories

(1) Medical/dental supplies and services
(2) Damage control
(3) Life saving and personnel safety
(4) Required general use consumables
(5) Equipage, not included above, to fill allowance or replace surveyed equipage
(6) Self-help habitability improvement projects
<i>*Add 7 Repair Parts and 8 Other/unknown</i>

D. GPC DATA ENTRY RULES

A standardized process for entering purchase data was established to mitigate differences in data entry procedures by the different data entry assistants. These rules,

Figure 1, were designed to keep the process simple while creating a means for the researcher to be able to identify and review the source data of any entries. The primary source of data was the receipts and invoices from the vendors. Whenever possible, this information was used to populate the spreadsheet. Purchase requests and other supporting documents were used as amplifying information to further classify the purchases as required. For example, if an invoice cited the purchased material only using a local stock number, e.g., 3ea Item 32-4405N \$75, purchase card requests and amplifying information would be used to determine the type of material that was purchased; e.g. 'request purchase of three pairs leather gloves for banding kit teams.' Items which the data entry team could not identify were classified 'Other/unknown' and marked for further review for the researcher. As stated above, expanded categories for Consumable Items and for Repair Parts were added to facilitate deeper analysis of these groups.

GPC Data Entry Ground Rules

Rules for entering receipts:

- 1) Enter data from invoice, not request. Use request for amplifying information
- 2) Add control number to request
 - i) (hull number)(month)(year)(serial)
 - ii) Ex. 67020904 4th receipt from COLE (DDG 67) in February 2009
 - iii) One control number per invoice
- 3) Enter quantity purchased
- 4) Enter basic description of material purchased
 - i) Does not need to be exact but should be descriptive
 - ii) If shipping charge, freight, FOB charge, etc. enter "freight" and use same category as other material on invoice
- 5) Determine 'best fit' category for material
 - i) If unknown, leave blank and tab sheet for later review
- 6) Enter unit price and extended money value
- 7) Enter name of store
- 8) Enter month received
- 9) Highlight control number to indicate 'entered'

Categories:

- 1 Medical/dental supplies and services
- 2 Damage control
- 3 Life saving and personnel safety
- 4 *Required general use consumables*
 - 4.1 Office Supplies
 - 4.2 Cleaning Supplies
 - 4.3 Electronics
 - 4.4 Lighting
- 5 Equipage, not included above, to fill allowance or replace surveyed equipage
- 6 Self-help habitability improvement projects
- 7 *Repair Parts*
 - 7.1 Primary Repair Parts
 - 7.2 Supporting Repair Parts
- 8 Other, Unknown

Figure 1. Data Entry Ground Rules

E. EXAMINATION OF DATA

Following the compilation of data into the spreadsheet, the purchases were examined to determine what the GPC purchased and if the types of material purchased were evenly distributed among the categories above, or if there were categories utilized more than others. The data were evaluated by total dollars spent by category and number of purchases. If there were vendors utilized more than others, further research may determine why they are favored. Examination of the data yielded findings showing what had been purchased and where GPC dollars were spent throughout the year.

Examination of the various categories of material purchased was focused on the following disaggregated areas:

- Vendors receiving GPC OPTAR dollars
- Categorical analysis of purchases by frequency
- Categorical analysis of purchases by dollar value

F. VENDORS RECEIVING GPC OPTAR DOLLARS

Examination of the vendors frequented is meant to determine whether ships are meeting statutory requirements in utilizing required sources of supply and ensuring an equitable distribution of business in accordance with the FAR (FAR, 2009).

G. CATEGORICAL ANALYSIS OF PURCHASES BY FREQUENCY

Analysis of the material being purchased identified what is being bought with the card. Determining the types of material being purchased required line-by-line data entry of individual item purchases from actual receipts and subsequently categorizing those purchases according to headings based upon the SURFSUP 4400.1 material priorities.

H. CATEGORICAL ANALYSIS OF PURCHASES BY DOLLAR VALUE

Examination of the dollar value of categorized purchases further indicated how the card is being utilized and how many OPTAR dollars were spent on different types of material. This data gives a sense of which categories of material are the recipients of GPC funding relative to others.

I. SUMMARY

Selecting a balanced number of similar platforms is designed to limit the scope of the data collection to allow for manageable analysis, while still allowing for sufficient breadth of view so that inferences about the fleet can be made. The data collected was selected to identify all GPC purchases made over approximately a one-year period, and once cataloged electronically, permitted manipulation and analysis of the information. Discussions with the fleet revealed how the decision to purchase material using the GPC is made. Data collection and analysis revealed what was purchased and included information regarding where the card was used and how much was spent.

IV. ANALYSIS

A. DISCUSSIONS WITH THE FLEET

Discussions with those individuals actively involved in the GPC process onboard Norfolk-based DDGs were held to gain a better understanding of the issues involved in the use of the GPC. The researcher visited representatives from COMNAVSURFLANT, the Norfolk-based Afloat Training Group (ATG), and the Supply Officers of the ships themselves. COMNAVSURFLANT has overall responsibility for the ships; ATG conducts Supply Management Certifications and quarterly audits of the ship's purchase card use; and the Supply Officers are typically assigned as the APCs and are generally considered the subject-matter experts onboard. The goal of the discussions was to gain a better understanding of the actual processes involved in using the GPC beyond the directives, to understand the instructions in place for governing use of the card, and to get a sense of any underlying practices that occur that could have positive or negative effects throughout the fleet.

The discussions in Norfolk revolved around the core issues of 1) where GPC dollars are being spent, 2) how the decision is made whether to utilize the GPC or the Navy supply system and 3) categorically, what are funds being used to make purchases.

B. WHERE THE FLEET BELIEVES GPC DOLLARS ARE SPENT

Those directly involved in the GPC program expect the vast majority of all purchase card transactions are made at the FISC-sponsored *Servmart*. This outlet provides a variety of material that promotes JWOD (Javits-Wagner-O'Day Act [41 U.S.C. 46-48c]) (AbilityOne, 2009) products considered one of the priority sources for federal supply (FAR, 2009, p. 8.002). All the shipboard APCs interviewed cited *Servmart* as an authorized source of supply and considered it faster and more convenient than ordering material through the supply system. Many of the APCs said that *Servmart* was overpriced and charged excessive surcharges for material, and that they would prefer

to utilize other commercial sources to save money. However, the purchasers said they were wary of doing so because of the JWOD provisions cited in NAVSUP 4200.99, DoN Purchase Card Program Policy (2006, pp. 5-5).

C. HOW THE GPC OR SUPPLY SYSTEM DECISION IS MADE

The decision onboard ships on whether to issue through the Navy stock fund or purchase utilizing the GPC is typically a matter of availability and timeliness, according to the Supply Officers interviewed. Generally, if the material is in the Navy's onboard stock system when requested, it is issued from stock. Most generally available consumables not in stock are subsequently purchased at Servmart if available to avoid delays in ordering and receiving the material. Repair parts ordered onboard are screened through the Tech Edit process, as defined by the SURFSUP 4400.1 (2008, pp. 1-11) and NAVSUP P-485 (1997, pp. 3720-3729). The Supply Officers state that repair parts are only purchased using the GPC if 1) the material is not available in the supply system, 2) the material has a long lead time, 3) the material is backordered when the same material is commercially available and when acquisition of the material is time sensitive, usually due to an upcoming underway period where there is insufficient time to wait for the material to arrive by means of the supply system.

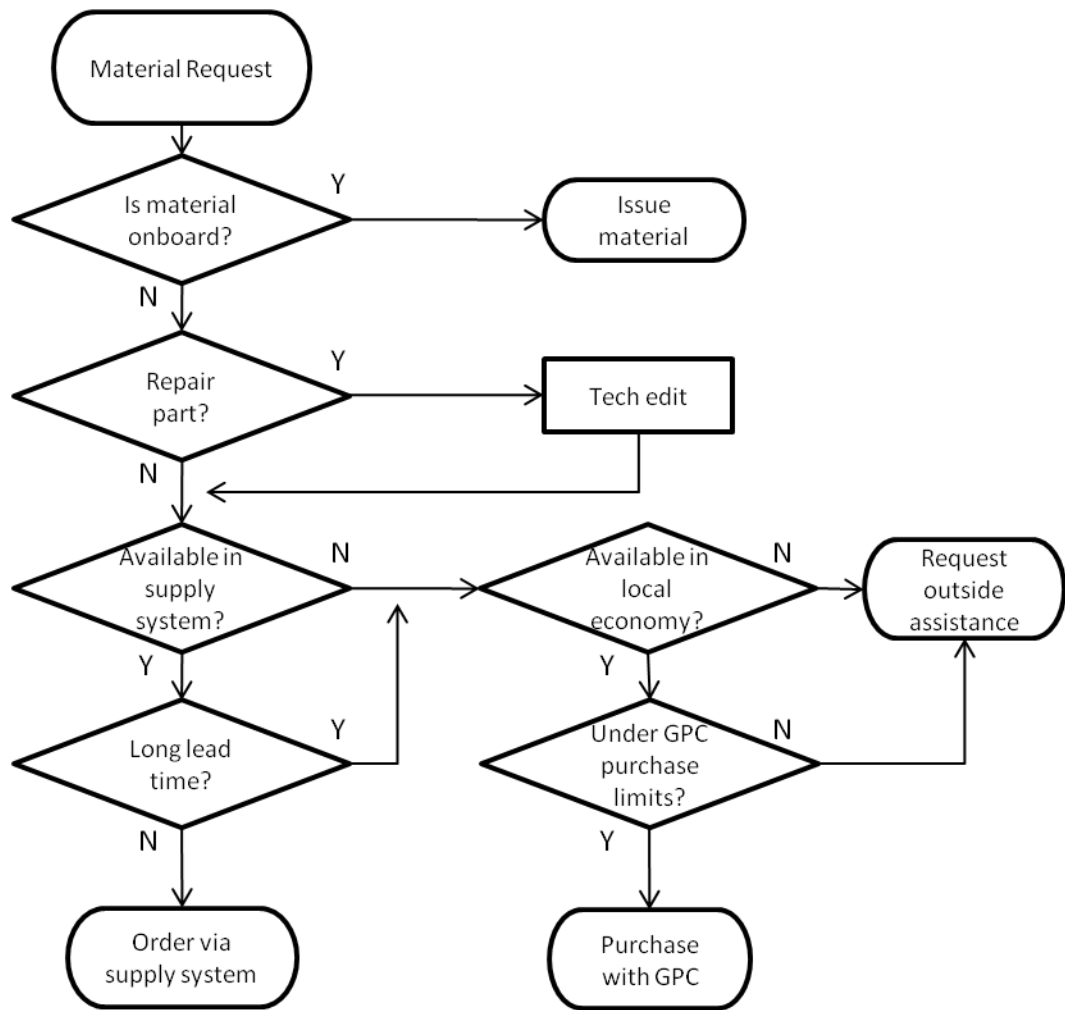


Figure 2. GPC or Supply System Decision

D. RESULTS OF DATA ANALYSIS

The purpose of this portion of the study was to determine how the GPC is currently being used. Once data entry of the purchase requests and receipts from the five subject vessels were input into Excel, over 5,600 lines of individual purchases were recorded, representing over \$1,000,000 of expenditures. The months containing reviewed and analyzed data are shown in Table 5. Expenditures tend to be largest approaching the end of the fiscal year, which is not unusual, as units use the last of their fiscal year monies. No other intuitive trends are apparent from the amount of monthly

expenditures. Since the data analyzed cited the invoice or receipt date as opposed to the month the obligation was made, some data could be misleading under the schema employed for this research—e.g., if an obligation was made in June but the shipment not invoiced until September, the material would be recorded as a September purchase.

Table 5. Purchases by Month in Dollars

	A	B	C	D	E
Jun-07	-	-	-	-	-
Jul-07	-	-	-	-	-
Aug-07	-	-	724	-	-
Sep-07	-	-	5,842	-	72,291
Oct-07	-	-	-	-	53,973
Nov-07	-	-	315	-	13,905
Dec-07	-	-	463	-	60
Jan-08	174	-	15,947	697	4,199
Feb-08	-	-	8,587	-	23,001
Mar-08	1,657	200	1,512	1,630	2,656
Apr-08	7,175	-	11,778	20,619	3,004
May-08	9,227	-	1,235	7,007	4,872
Jun-08	2,146	-	43,017	24,868	1,187
Jul-08	7,815	-	14,510	8,492	3,936
Aug-08	4,628	-	6,730	54,359	34,898
Sep-08	64,511	24,734	34,488	27,365	155,161
Oct-08	8,582	169	-	-	4,752
Nov-08	6,650	30,172	5,140	-	13,119
Dec-08	1,099	10,298	5,038	-	10,777
Jan-09	19,812	13,195	15,384	-	8,753
Feb-09	20,474	14,030	1,913	-	27,147
Mar-09	-	2,469	-	-	3,691
Apr-09	-	-	-	-	-
May-09	-	-	-	-	-
Jun-09	-	-	-	-	-
Total	153,950	95,268	172,622	145,037	441,381

E. VENDORS RECEIVING GPC OPTAR DOLLARS

The majority of purchases made and dollars expended occur at Servmart. Servmart purchases represented over three-quarters of all line-item purchases. Of the 5,600 line-item purchases reviewed in the course of this study, over 4,600 of those purchases occurred at Servmart. Servmart purchases also represented the largest amount of total dollars expended at \$626,000 of \$1,000,000 total expenditures reviewed or over 62 percent of total expenditures. The next most utilized vendor represented less than 2.5 percent of number of purchases or total expenditures. The top 20 most utilized vendors are represented in Tables 6 and 7.

The data collected validates the assertions of the APCs in the fleet that the majority of the items purchased were made at Servmart. Since Servmart represents an authorized source of supply by providing JWOD approved material, the data indicates that ships are meeting statutory requirements in utilizing required sources of supply. Interviews with the APCs revealed that they recognized the requirement to utilize statutory sources of supply and the data suggests that they are complying with those requirements. With the exception of Servmart, no other vendors appeared to be heavily favored over any others, indicating that ships are distributing business among other vendors. Whether this distribution of business is equitable by design, random or based upon another driver, e.g., sale prices at different stores, is unclear.

Table 6. Top 20 Expenditures

	\$ 1,008,257	Total Dollars Expended
Dollars Expended	Percent of Dollars Expended	Store
\$ 626,219	62.1%	Servmart
\$ 25,031	2.5%	Mustang Survival
\$ 15,216	1.5%	Sea-Tech Systems, Inc.
\$ 13,074	1.3%	Hiller Systems Inc.
\$ 11,667	1.2%	Verizon
\$ 10,826	1.1%	Columbus Mckinnon
\$ 9,621	1.0%	MMC Metrology Labs Inc.
\$ 7,789	0.8%	Destinee Distributors
\$ 7,599	0.8%	H & H Engraving Inc
\$ 7,347	0.7%	Beach Marina Services
\$ 5,915	0.6%	Jokel
\$ 5,683	0.6%	Hampton Rubber Company
\$ 5,430	0.5%	Source
\$ 5,110	0.5%	CDW-G
\$ 5,030	0.5%	B&B MTG., Inc
\$ 4,984	0.5%	Grainger
\$ 4,795	0.5%	Snips of VB
\$ 4,611	0.5%	Fire X Corporation
\$ 4,376	0.4%	Virginia Sealing Products, Inc.
\$ 4,326	0.4%	Extreme outfitters inc

Table 7. Top 20 Purchases

	5676	Total Purchases Made
2 ea = 1 purchases		
Number of Purchases Made	Percent of Purchases Made	Store
4610	81.3%	Servmart
59	1.0%	Hiller Systems Inc.
36	0.6%	Verizon
36	0.6%	Home Depot
34	0.6%	B&B MTG., Inc
31	0.5%	Norva Barber Supply LTD
30	0.5%	Sea-Tech Systems, Inc.
30	0.5%	Imagewear
24	0.4%	Xerox Corporation
20	0.4%	Corporate Express
18	0.3%	Flags Unlimited INC
17	0.3%	The Corps
17	0.3%	Catalog Market Place
17	0.3%	Lynnhaven Dive Center
15	0.3%	CDW-G
15	0.3%	Moore Medical
14	0.2%	Best buy
14	0.2%	Flag & Signal
14	0.2%	MMC Metrology Labs Inc.
14	0.2%	Hampton Rubber Company

F. CATEGORICAL ANALYSIS BY FREQUENCY AND DOLLAR VALUE

Determining what types of material were being purchased using the GPC required line-by-line data entry of individual item purchases from actual receipts and subsequently categorizing those purchases according to headings based upon the SURFSUP 4400.1 material priorities. Purchases were analyzed by frequency of purchases (see Figure 3) and dollar value (see Figure 4) for the five sample vessels of this study. The results of the categorization show that both in terms of purchase frequency and dollars expended, the GPC card is used to purchase general-use consumables. Servmart purchases represent the largest use of the card in percent of transactions—over 75 percent—and account for over 60 percent of expended dollars.

Frequency of purchases by category and by dollar value follow similar patterns in that card use was used primarily for purchasing General Use Consumables, and secondarily, for Other/Unknown items—that is, those items which do not fit into any of the other seven categories. The data shows that the majority of GPC funds are expended on consumables and uncategorized material, which implies that the Navy supply system is the primary means by which the other categories of material are acquired.

Dollar density of purchases examines the relationship between the amount of the purchase against the number of purchases. Density was calculated two ways. The first calculation was done by dividing the dollar value spent at each respective vendor by the number of items. For example, if on a given day a purchase of three widgets was made at a store, this would represent three items purchased and be divided into the amount of the purchase. These calculations were done on an aggregate scale (i.e., the total number of items purchased from the vendor throughout the year divided into the total dollars spent at that vendor throughout the year). The purchases with the highest dollar typically represented one-time buys. While high-dollar density purchases do not necessarily indicate wasteful transactions, their comparatively unusual nature and high dollar values warrant additional consideration by APCs. These high-density purchases tended to be infrequent. For example, one \$10,000 item was contracted through the local FISC and paid by the ship using the GPC. Since this was the only purchase from this vendor, the

density was \$10,000. Density as shown in Table 8 represents dollar density sorted by vendors with the highest frequency of purchases. Servmart dollar densities are comparatively low, ranking near the bottom 25 of the list, averaging \$15 per item purchased and \$136 per purchase.

Frequency of Purchases		
1.2%	68	Medical/Dental
1.8%	103	DC
3.5%	201	Safety
55.7%	3159	Consumables
1.3%	74	Equipage
3.4%	194	Self-Help
6.9%	389	Repair Parts
26.2%	1488	Other
	5676	Total Purchases

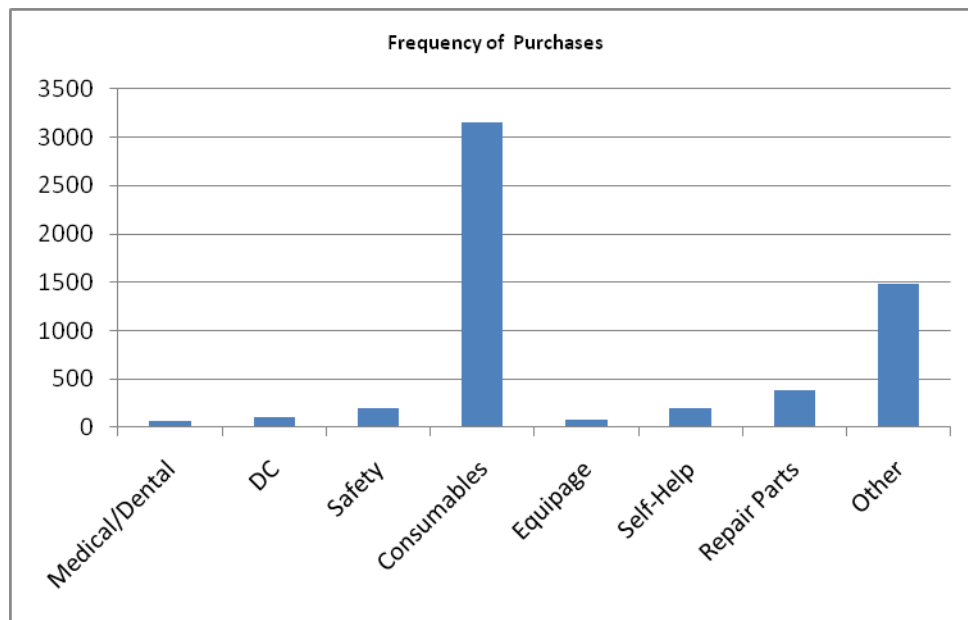


Figure 3. Frequency of Purchases

	Dollar value of Purchases	
0.7%	\$ 6,933	Medical/Dental
5.0%	\$ 50,224	DC
6.4%	\$ 65,029	Safety
39.2%	\$ 394,845	Consumables
3.5%	\$ 35,125	Equipage
3.0%	\$ 30,527	Self-Help
13.3%	\$ 134,484	Repair Parts
28.9%	\$ 291,091	Other
	\$ 1,008,257	Total Value

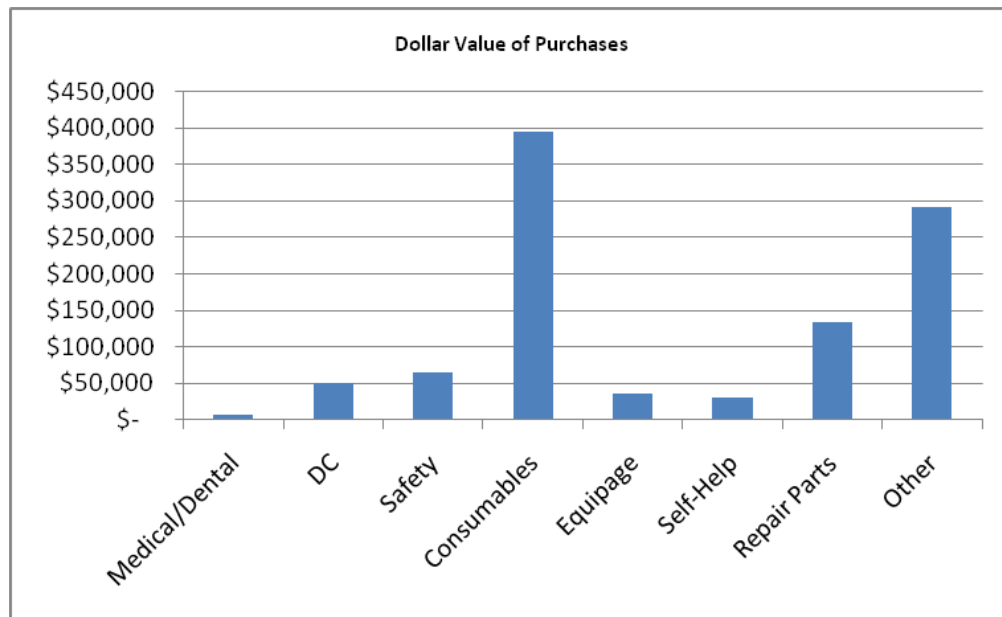


Figure 4. Dollar Value of Purchases

Table 8. Purchase Density

Purchase Density		
\$ Spent/Number of Purchases		
Density Per Purchase		Store
\$ 136		Servmart
\$ 222		Hiller Systems Inc.
\$ 324		Verizon
\$ 36		Home Depot
\$ 148		B&B MTG., Inc
\$ 70		Norva Barber Supply LTD
\$ 507		Sea-Tech Systems, Inc.
\$ 133		Imagewear
\$ 163		Xerox Corporation
\$ 40		Corporate Express
\$ 15		Flags Unlimited INC
\$ 227		The Corps
\$ 91		Catalog Market Place
\$ 54		Lynnhaven Dive Center
\$ 341		CDW-G
\$ 61		Moore Medical
\$ 227		Best buy
\$ 183		Flag & Signal
\$ 687		MMC Metrology Labs Inc.
\$ 406		Hampton Rubber Company

General-use consumables were expected to represent a large portion of GPC usage and were subdivided into four additional categories consisting of office supplies, cleaning supplies, electronics, and lighting. Other “required general use consumables” represents consumable items that are used onboard ship but do not fit well into the other four categories. This category includes such diverse items as aluminum foil and plastic wrap for galley operations, toilet paper, garbage bags, barber supplies, and masking tape. Cleaning supplies predominately represent cleaning gear (e.g., brooms, brushes, swabs, and scrub pads). Electronics items include LCD monitors, cables and sound equipment. The lighting category was meant to capture the purchase of fluorescent and incandescent light bulbs, under the assumption that many of the Servmart purchases were for those items. The detail of the consumable category in frequency of purchase and dollar value is shown in Figures 5 and 6.

Of the consumables purchased, office supplies and required general-use consumables constitute the majority of purchases. In the researcher’s opinion, these purchases complement the Navy supply system by allowing defense depots to focus on Navy-specific material and local retailers to support common material.

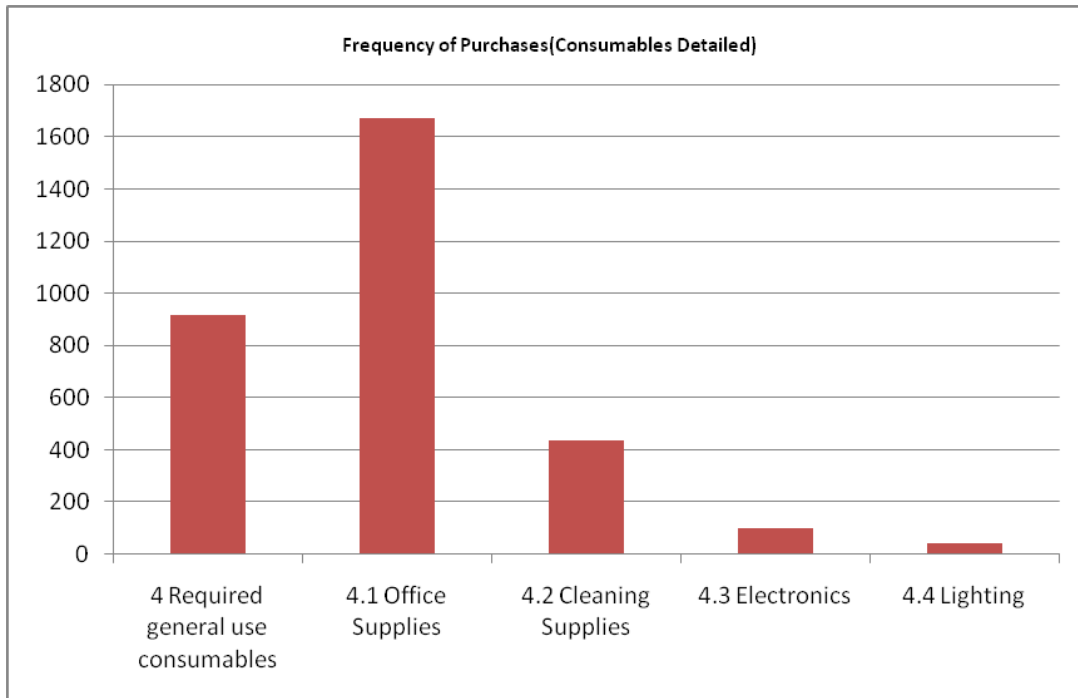


Figure 5. Detail of Consumable Purchase Frequency

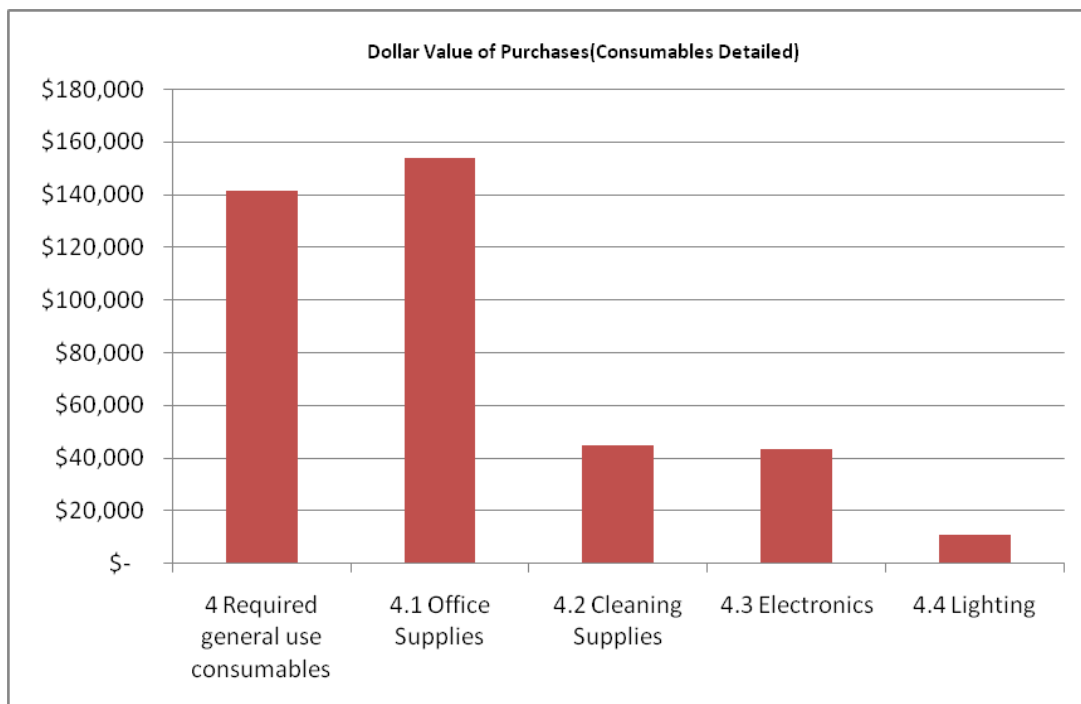


Figure 6. Detail of Consumable Purchase Value

G. COMPARISON OF SPENDING PATTERNS SHIP TO SHIP

Spending patterns among the ships studied show similar spending habits in terms of types of materials purchased. The percentages of material purchased compared across units is shown in Figure 7.

A	B	C	D	E	
0.1%	0.0%	0.6%	0.0%	1.3%	Medical/Dental
2.2%	6.7%	1.0%	6.8%	6.5%	DC
4.1%	24.0%	2.1%	6.1%	5.3%	Safety
31.5%	29.4%	54.9%	48.2%	34.8%	Consumables
5.9%	2.3%	0.0%	2.7%	4.5%	Equipage
4.5%	1.6%	2.2%	0.0%	4.2%	Self-Help
12.4%	17.6%	14.6%	8.4%	13.9%	Repair Parts
39.2%	18.5%	24.7%	27.8%	29.5%	Other
100.0%	100.0%	100.0%	100.0%	100.0%	

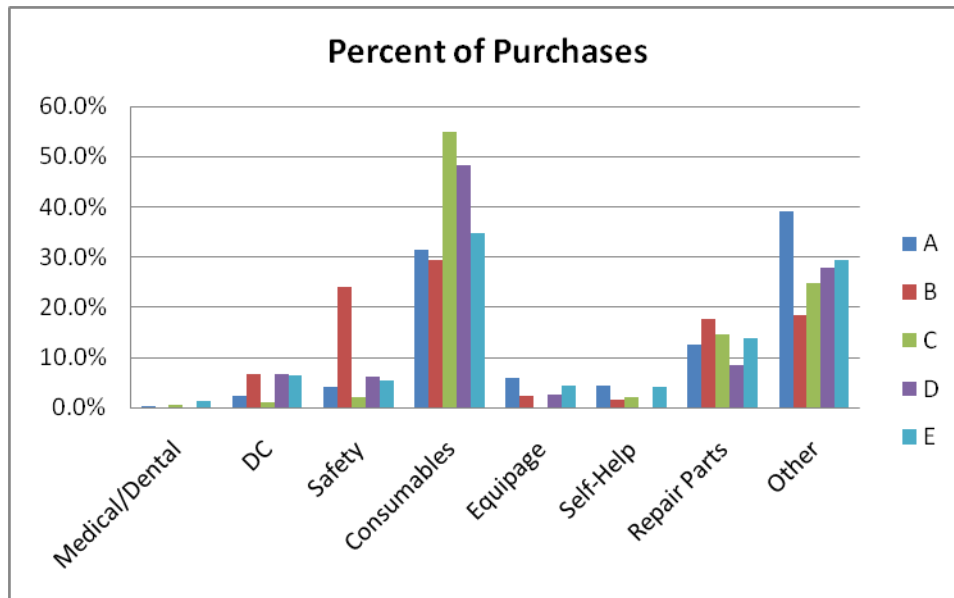


Figure 7. Graph of Percent Material Purchased by Unit

H. SUMMARY

Discussions with those who are directly involved in the GPC process suggested that the majority of purchases made were made at Servmart. The data collected supports that assertion. Servmart purchases account for over 75 percent of all material purchased, the equivalent of 16 percent of all dollars obligated. The data shows that most purchases are made to acquire general-use consumables and office supplies, with the remainder acquiring a wide variety of other material not easily categorized into the CNSF priority categories. GPC purchases represent predominately small purchases with infrequent larger dollar value buys.

V. END PRODUCTS

A. RECOMMENDATIONS TO IMPROVE GPC PROCESS

Analysis of the data collected suggests that the fleet is making generally responsible use of the funds with which it is entrusted. The process itself has a number of areas that could be improved to increase efficiency and the CNSF's confidence in the GPC process. The process, as is, is functional, and the data analysis suggests that doing nothing to change the system would not be detrimental to the TYCOM's goals of responsible fiduciary management. However, there are opportunities to improve the current process, which could yield differing levels of benefit and cost, depending on the amount of additional oversight desired. Three possible solutions for improving the GPC process onboard ships follow. The reader should take note that the risk of information overload at the TYCOM level, and wasted effort at the ship level, increases with additional oversight.

B. MINIMAL ADDITIONAL OVERSIGHT—IMPROVE STANDARDIZATION

Keeping ships operating as predominately autonomous units with only minimal oversight has distinct advantages, especially when operating away from the continental United States (CONUS). Four methods that could improve standardization, while maintaining relative independence within the discreet units, would include a combination of some or all of the following:

- Standardize documents and procedures
- Implementation of electronic database
- Creation of TYCOM desktop guide
- Emphasize training as a preventative measure

1. Standardize Documents and Procedures

The data analysis suggests that the system the fleet is operating under is functional and that the fleet makes generally responsible use of the funds with which it is

entrusted. Each ship's operating guidance and process, while similar, all have differences. These differences are generally data management items such as the format of purchase requests and the organization of purchase card records. However, there are also conceptual differences, such as determining what vendor documents constitute a quote for services. Some ships required a hard copy quote from a vendor; some ships considered an advertised price on a Web site as a sufficient quote. SURFSUP 4400 contains templates and samples for purchase requests and purchase card logs (SURFSUP 4400.1, 2008) but does not mandate a specific format for maintaining the records themselves. Since the instruction requires only that the essence of the samples be used, every ship's documents are slightly different.

Standardization of the procedures, documents used, and format of retained records are likely to improve efficiency and improve de facto control by the TYCOM by better defining the boundary systems within which the ships operate. As sailors rotate from ship to ship, they would not have to learn a local system; instead they would use a mandated system of document formats and retained records. For example, one way to standardize the records would be to insist that monthly GPC records be retained in a six-part folder. Part 1 would contain the purchase card log. Part 2 would contain all certifications pertaining to that month. Part 3 would contain pending requests. Part 4 would contain approved requests and receipt documentation. Part 5 would contain recurring services such as cell phone bills. Part 6 would contain notes, justifications, explanatory statements, e-mail correspondence, etc.

Standardization of documents and retained records will assist organizations such as ATG in their review of the ship's records. If each ship's records were maintained in the same format, ATG or TYCOM reviewers would be able to conduct their review more quickly, thus improving diagnostic controls.

2. Implementation of Electronic Database

One method of standardizing the GPC program would be to shift many of the processes to an electronic format. Presently, there is no standard GPC electronic program for use onboard ships. Implementation of a common database program for generating

requests and logs would facilitate standardization in practice. This program could be a modification of Microsoft Access or a similar program that would allow users to enter requests, maintain a purchase log, and view a history of items requested and purchased. Electronic purchase history would give those involved in the review process the ability to examine past requests and purchases to see whether the items being ordered have been ordered frequently in the past. This could indicate the material that the ship may want to keep onboard in quantity, or it could indicate potential abuse if pilferable items such as tools, knives, and calculators are being regularly ordered in quantities beyond expected requirements. This program could also be a precursor for expanding use to monthly reports and reviews to the TYCOM, to be discussed in more detail in the next section.

3. Creation of TYCOM Desktop Guide

A desktop guide prepared by the TYCOM could further improve standardization by expanding upon the permissions and limitations on card use as espoused in SURFSUP 4400. DoN publications and instructions regarding card use, specifically NAVSUP 4200.99, while comprehensive, expand into details well beyond those required for daily use and management of the GPC onboard ships. A more user-friendly guide could better focus those charged with the regular administration of the GPC to meet the intentions of the TYCOM without superseding NAVSUP 4200.99 and could act as a first source for questions regarding GPC program administration. Being a TYCOM-produced document, regular updates of policy changes could be incorporated and distributed with relative ease. By clarifying the TYCOM's intent, boundary controls are enhanced.

4. Emphasize Training as a Preventative Measure

To meet the TYCOM goal of ensuring fiduciary responsibility among GPC users, an increased emphasis on preventative training could be implemented. By clearly defining expectations to APCs, the TYCOM can better control the desired results by influencing the individual responsible for management of the GPC, thus satisfying one of Merchant's conditions for results controls by enhancing belief systems (Merchant, Control in Business Organizations, 1985).

C. MODERATE OVERSIGHT—MONTHLY REVIEWS

Oversight into the GPC process could be further improved by monthly reviews of ship purchases. Implementation of this level of oversight could be accomplished by first requiring the implementation of the standardized electronic database, as discussed above, and putting into place an additional means of consolidating the data and transmitting it monthly to higher commands. One possible vehicle for transmitting this data would be to modify the CMP data (Continuous Monitoring Program) to capture GPC information out of the database, and to consolidate and transmit it as part of the existing monthly CMP transmittal to the TYCOM. The transmittal could be in full line-item detail or it could be a summary of the types of purchases, similar to Table 10. Collection and analysis of this information would be done as part of the TYCOM's CMP review. The amount of CNSF involvement would likely be proportional to the oversight dedicated to reviewing the data.

Table 9. Example of Monthly Summary Data

UIC 22222	USS UNDERWAY March 09		
Dollar value of Buys	Frequency of Buys		
\$ 193	2	1	Medical/dental supplies and services
\$ 810	3	2	Damage control
\$ 1,709	9	3	Life saving and personnel safety
\$ 11,687	93	4	Required general use consumables
\$ 847	3	5	Equipage
\$ 529	8	6	Self-help habitability projects
\$ 2,292	6	7.1	Primary Repair Parts
\$ 1,593	10	7.2	Supporting Repair Parts
\$ 12,091	59	8	Other, Unknown
\$ 31,752	193		Purchases for March 09
\$ 63,505	385		Total Purchases for FY09

A benefit of regular data collection would be the TYCOM's ability to review a ship's purchases monthly. While most ships would likely not require an in-depth regular review, an overview of the purchase data could benefit commands that have either inexperienced APCs, or have shown a history of irresponsible or questionable buys. Information overload would be one risk of implementing a system to collect comprehensive line-item purchase data from all ships across the waterfront. Unless the TYCOM had specific items they were looking for in the data or had dedicated personnel assigned to review the data, it is likely the bulk of this information would be collected but never put to any effective use.

D. MAXIMUM OVERSIGHT—LIVE REVIEWS AND APPROVALS

Shifting to a live or real-time review system would maximize the TYCOM's ability to provide oversight over GPC spending and visibility of how ships under their charge are utilizing the appropriated funds they are provided. This system would be very similar to the standardized electronic versions discussed above, but instead of being a locally installed system, it would be remote. Ships would need to log into the system to perform any functions. A Web-based system for purchase requests, reviews, and approvals within the ship and subsequent updating with actual purchase information would provide the TYCOM the opportunity to review the use of public monies for which the TYCOM is responsible. A system built in sufficient detail to capture line-item requests submitted by ship borne divisions for the ship's department heads and Agency Program Coordinators should also meet the visibility needs of the TYCOM in real time.

Assuming the TYCOM had read-only access, they could see what was being requested and provide feedback or guidance to the ship prior to or just after the purchase of the material. Once a purchase had been completed, the purchase information could be updated along with a scanned copy of the receipt. Under current instruction, paper copies of purchase and receipt documentation would still be required. NAVSUP 4200.99 states:

Electronic Storage of Purchase Card Documentation. Regular scanning of purchase card documentation is not sufficient to comply with record retention of documentation for the requirement of six years and three months. Unless audit trails and safeguards are built into the system being

developed, an auditor will need to examine the original, unaltered purchase documentation. (NAVSUP 4200.99, 2006, pp. 5–10)

While formal audits would still require examination of hardcopy original documentation, if electronic copies of receipts were available, initial reviews could be accomplished, virtually reducing the amount of time expended by the audit team.

Whether the TYCOM would make use of request information on a regular or occasional basis would depend upon the desired level of involvement the TYCOM deemed necessary. Ships that exhibit a pattern of irresponsibility would likely be reviewed more frequently than others. Review of a ship's purchases might also be useful for the TYCOM to evaluate the judgment and training of newly reported APCs to the ship. There is a risk of excessive intervention that could inhibit one of the purposes of the GPC—to streamline small-purchase methods. The TYCOM would be wise to limit the amount of involvement, to avoid becoming an additional layer of informal approval. Available bandwidth and connectivity issues would need to be examined prior to the implementation of a live system.

E. SUGGESTED SOLUTION AND RELATIONSHIP TO MODEL

Implementation of a standardized process that has improved visibility by the TYCOM would likely improve efficiency at the ship level and allow the TYCOM to better understand what ships are spending appropriated monies on. Using Simon's Levers of Control (Simons, 1995) as the primary model, application of the standardization recommendations enhances three of the levers, see Table 11. Improved training and clearly defined expectations increase Belief Controls by assisting managers to better understand the TYCOM's intent for the use of funds. Standardization of procedures, implementation of an electronic database, and distribution of a user-friendly desktop guide would improve Boundary Controls by clearly defining permissible and prohibited actions. Standardization would yield benefits in Diagnostic Controls by better allowing reviewing commands to perform their diagnosis in a timelier manner. Standardization and review might eventually lead to the identification of useful metrics that might be used to compare units to each other and effectively measure results, thus

satisfying Merchant's third requirement (Merchant, Control in Business Organizations, 1985). Monthly summary reports similar to Table 9 would provide feedback to the TYCOM, also improving Diagnostic Controls. Of the four levers of control, the Interactive Controls remain the weakest. While Interactive Controls exist within the ship as part of the review and approval process, there are few interactive controls between the ship and the TYCOM. A fully live review and approval system would improve these controls, but the cost of implementation and loss of independence of the ships might be excessive. Encouraging additional CLASSRON-to-ship interaction may satisfy this requirement. Improving upon the existing relationship could lead to a better understanding of the ship's needs and balance those needs against the TYCOM's limitations or provide an opportunity for the TYCOM to allow exceptions instead of incurring violations.

Table 10. Enhancements of Simon's Levers of Control

TYPE OF CONTROL	CONTROLS IN PLACE <i>Enhancements from Recommendations</i>
Belief Systems	Officer candidate selection BQC Training Code of Responsibility <i>Improved Training</i> <i>Clearly Defined Expectations</i>
Boundary Systems	Publications Instructions <i>Electronic Database</i> <i>Standardized Procedures</i> <i>TYCOM Produced Desktop Guide</i>
Diagnostic Control Systems	TYCOM APC monitoring ATG quarterly reviews Citibank PAT <i>Standardized Documents and Procedures</i> <i>Monthly Summary Reports</i>
Interactive Control System	Augment requests <i>Additional CLASSRON to Ship Interactions</i>

F. SUMMARY

Standardization of the GPC process onboard ships would benefit sailors transferring among units, reviewing organizations, and better define TYCOM expectations regarding use of the GPC through an improved training curriculum and

consolidated desktop guides. Implementation of electronic documentation would assist APCs in making better informed decisions by having visibility of past purchases. A monthly summary of a ship's purchases and improved interaction between the ships and the TYCOM's agent in the CLASSRON would improve interactive controls. CNSF's goal in managing the GPC program is to ensure responsible use of funding among its subordinates. Improving the controls in place by implementing some basic changes in process is another step to realizing this goal without excessive intrusion of the ship's independence. The TYCOM is rightly concerned about the use of GPC funds because there is an inherent risk of abuse. Arming the day-to-day managers of the system with better tools to act as agents of the TYCOM would produce significant benefits by preventing abuses of the system before they occur while avoiding micromanagement of the process by the TYCOM.

VI. FOR FURTHER STUDY

This review covered a relatively small portion of the surface fleet, specifically the use of GPC on Norfolk-based DDGs. A comparison of DDGs homeported at a different location could identify differences or similarities in spending patterns that may be attributable to differences in local policies or vendors and services available in that region.

By utilizing a similar framework and methodology to examine spending patterns on different classes of ships or on ships of different TYCOMs—i.e., Commander Naval Air Forces and Commander Naval Submarine Forces—similarities or differences could be identified and could suggest that spending patterns are similar or different throughout the Navy.

The “Other” category as used in this study was meant to capture all items that did not fit into the CNSF priority list. A more thorough analysis of “other” purchases could better clarify how the fleet is utilizing the GPC. From a cursory review of the material in “other,” many of the items appeared to be hand tools. If this is indeed the case, it would beg at least two questions. First, how many tools are being purchased annually? And second, are they being properly controlled?

This study focused on the use of the GPC to purchase material for the ships, but did not examine the disposition of that material after purchase. While many consumable items such as soap, pens, paper and brooms are expected to be consumed, there are many items that should presently be in possession of the ship. Examination of the procedures and controls in place for these items may identify weaknesses in the custody of these materials. Enhancing the custody and inventory of this material may be made more user-friendly if the electronic database (as discussed under Recommendations) were implemented.

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