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JOINT APPLIED PROJECT REPORT

A CASE STUDY TO IDENTIFY COMMON ACQUISITION PLANNING ISSUES FOR RESEARCH, DEVELOPMENT, TESTING, AND EVALUATION (RDT&E) PROJECTS

December 2021

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ISSUES FOR RESEARCH, DEVELOPMENT, TESTING, AND EVALUATION
(RDT&E) PROJECTS**

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Submitted in partial fulfillment of the
requirements for the degree of

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from the

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ABSTRACT

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LIST OF ACRONYMS AND ABBREVIATIONS

AAC	Account Assignment Category
AFDA	Automated Funding Document Acceptance
AIMTC	Advanced Interactive Management Technology Center
APSR	Accountable Property System of Record
ATD	Advanced Technology Development
ATS	Acquisition Tracking System
BL47	Naval Station Newport, Building 47
CICA	Competition in Contracting Act
Code 01	NUWCDIVNPT Comptroller Department
Code 02	NUWCDIVNPT Contracts Department
Code 10	NUWCDIVNPT Corporate Operations
Code 107	NUWCDIVNPT Property Management Division
Code 1071	NUWCDIVNPT Purchase Requisition Branch
Code 1072	NUWCDIVNPT Supply Branch
Code 1073	NUWCDIVNPT General Equipment Branch
Code 15	NUWCDIVNPT Sensors and SONAR Systems
COR	Contracting Officer Representative
CPARS	Contractor Performance Assessment Report System
DARPA	Defense Advanced Research Projects Agency
Defense S&T	Defense Science and Technology
DWCF	Defense Working Capital Fund
DLA	Defense Logistics Agency
DMS	Document Management System
DOD	Department of Defense
eCRAFT	Electronic Cost Reporting and Financial Tracking
EBUSOPSOFFINST	eBusiness Operations Office Instruction
ERP	Enterprise Resource Planning
F2FI	Fenceline to Fenceline Inventory
FAR	Federal Acquisition Regulation
FMS	Foreign Military Sales

FY	Fiscal Year
GE	General Equipment
GPC	Government Purchase Card
GSA	Government Services Administration
ICP	Inventory Control Points
IG	Office of the Inspector General
IOP	Internal Operating Procedures
ITPR	Information Technology Procurement Requests
JAP	Joint Applied Project
MILSBILLS	Military Standard Billing System
MILSTRIP	Military Standard Requisitioning and Issue Procedures
MMTS	Material Management Tracking System
MTR	Material Transfer Request
NAVFAC	Naval Facilities Engineering Systems Command
NAVSEA	Naval Sea Systems Command
NMAC	Navy Material Accountability Campaign
NPS	Naval Postgraduate School
NUWC DIVNPT	Naval Undersea Warfare Center Division Newport
NSLC	Naval Sea Logistics Center
NSRT	NAVSEA Special Review Team
NWA	Network Activity
OM&S	Operating Materials and Supplies
OPM	Office of Personnel Management
PALT	Procurement Action Lead Times
PCO	Procuring Contracting Officer
PEO	Program Executive Officer
PLT	Procurement Lead Time
PO	Purchase Order
POC	Point of Contact
PP&E	Plant, Property and Equipment
PPLT	Procurement Production Lead Time
PR	Purchase Requisition

RD	Requiring Department
RDT&E	Research, Development, Testing, and Evaluation
RFP	Request For Proposal
RG	Requirements Generator
SAP	Simplified Acquisition Procurements
SAP ERP	Systemanalyse Programmentwicklung Enterprise Resource Planning
SCC	Service Cost Center
SCLS	Service Contract Labor Standards
SFFAS	Statement of Federal Financial Accounting Standards
SLT	Senior Leadership Team
SME	Subject Matter Experts
SOP	Standard Operating Procedures
SPP	Standard Procurement Process
SPS	Standard Procurement System
TDAA	Technical Department Acquisition Advocates
TE&PD	Training, Education, and Professional Development
TPM	Technical Program Managers
TPOC	Technical Points of Contact
UMM	Unique Material Master
WCF	Working Capital Funds

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EXECUTIVE SUMMARY

This Joint Applied Project (JAP) presents research on Naval Undersea Warfare Center Division Newport (NUWC DIVNPT) procurement processes for Government Purchase Card (GPC) purchases, which strongly suggests that the current Standard Procurement Processes (SPP) can be revised to accommodate the unique needs of Research, Development, Test, and Evaluation (RDT&E) Defense Science and Technology (Defense S&T) project procurements and reduce Procurement Action Lead Time (PALT) for the same, allowing NUWC DIVNPT to continue to move at the speed of relevance.

As Defense S&T projects fall under Department of Defense (DOD) RDT&E Budget Activities 1 through 3 (Basic Research, Applied Research, and Advanced Technology Development [ATD]), they tend to be of a smaller scale than projects of other types, in both scope and timeline, with fewer people, less money, and less time to accomplish the defined project goals. However, the research completed under Defense S&T projects provides further understanding into areas of interest that support more established projects and programs of record, and are therefore vital to the Navy's relevancy and superiority.

Research into this topic shows that Defense S&T project procurements at NUWC DIVNPT during FY19 did not actually experience a longer PALT than similar procurement actions for projects of other types, but it did show that the small nature and shortened timeline inherent in Defense S&T projects made them less tolerant of the current average PALT.

Through discussions with multiple process stakeholders the author found three (3) solutions that could potentially reduce PALT for Defense S&T projects, keeping within the current SPP, and three (3) recommendations for additional research. The first solution is to create a Process Cost Center (more commonly called a Service Cost Center [SCC] at NUWC DIVNPT) to assist Defense S&T projects in submitting complete and accurate paperwork and to reduce the administrative burden of document revision. The second solution is to standardize data entry in Material Management Tracking System (MMTS),

which will not only make system metrics more relevant and valuable but also allow for the implementation of the third solution, which is to update MMTS to notify individual procurement stakeholders when their requirement reaches certain milestone and to allow Defense S&T project Requirements Generators (RG) to submit a Material Transfer Request (MTR) at the time of PR creation request in MMTS.

Recommendations for further research for reducing PALT are all based on solutions posed by Naval Sea Logistics Center (NSLC) personnel in response to common issues they experience when performing receipt control functions. Recommendations include reviewing current standard operating procedures (SOP) and common practices to find areas to relieve some of the administrative burden of receipt control processes, and research into adding additional warehouse type modules to Navy Enterprise Resource Planning (Navy ERP) to automate some of the logistical tasks that are currently being completed inefficiently.

I. INTRODUCTION

In his 1989 Defense Management Report to the President, Secretary of Defense Dick Cheney discusses the “detailed, confusing, and sometimes contradictory” acquisition system at the time. Cheney attributes this complicated system to two sources: first “a consequence of legislative enactments,” and second a “self-imposed” burden, that “requires prompt corrective action by DOD” (Secretary of Defense, 1989). Congress has made significant changes to the Federal acquisition process since the 1989 Defense Management Report, and many articles since have been written to discuss whether those changes were for the better. But one theme remains constant: Government contracting professionals and other stakeholders are required to work within the Federal Acquisition Regulation (FAR) guidelines to develop and award contract actions.

As far as Cheney’s first source is concerned, there is no quick fix to be found in the way of changing legislation. Instead, to uncomplicate the acquisition system, the question we should be asking is: what can we do as stakeholders to reduce these self-imposed burdens that delay contract action awards, and what changes can be made to our local processes to expedite documentation for more urgent actions.

The Naval Undersea Warfare Center Division Newport (NUWCDIVNPT) has a clearly defined procurement process which includes steps that must be taken by every action prior to award, for receipt and acceptance, and handling of material after contract award. As with any process, there is room for improvement, and while contract stakeholders cannot affect change on legislative administrative burdens, they do have the ability to recognize, investigate, and alleviate bottlenecks in the local processes. As Krieger (2018) succinctly states, “ultimately, the time that it takes to accomplish an acquisition is not dictated by the Federal Acquisition Regulation (FAR), but by the people doing the work and the schedules they set.” (p. 9)

In June 2019, during a meeting with the Senior Leadership Team (SLT), the NUWCDIVNPT Deputy Technical Director tasked NUWCDIVNPT Technical Department Acquisition Advocates (TDAA) with determining why Defense Science and

Technology (Defense S&T) Technical Program Managers (TPM) experienced more issues with ‘slow acquisitions’ than other TPM (M. Snyder, personal communication, August 21, 2019). It seemed to the Deputy Technical Director that Defense S&T TPM voiced more issues with acquisitions than other programs/ projects, and were generally not able to get their material in a timely manner. As Defense S&T projects are run under Research, Development, Testing, and Evaluation (RDT&E) programs, the Deputy Technical Director called this tasking, “Speed in RDT&E” (D. Aker, personal communication, August 30, 2019).

In response to the Deputy Technical Director’s request, this JAP researches RDT&E Defense S&T project procurement processes to identify opportunities to reduce Procurement Action Lead Times (PALT) and or mitigate the effects of extended PALT where reductions cannot be made. It is expected that multiple variables that extend Defense S&T project PALT exist and through the identification of these variables it can be determined if process change is possible.

The NUWCDIVNPT procurement process has been changed over the years in response to Federal regulation changes, and is currently in compliance with Federal and local regulations and rules. The process currently works for other project types, so the intention of this JAP is not to find flaws or criticize the current process, but rather to identify areas within the process that warrant further investigation to make the process more efficient and effective, specifically for Defense S&T projects which appear to be more sensitive to extended procurement times.

A. “SPEED IN RDT&E”

The name of the tasking assigned by the Deputy Technical Director is problematic as it implies that the goal is to complete Defense S&T projects faster, while instead the goal of “Speed in RDT&E” is to shorten the PALT of material purchases for those types of projects, so that the project investigator can continue to work. Defense S&T projects are on a condensed timeline in comparison to other projects, typically no longer than one-year in length, which makes Defense S&T projects more sensitive to extended PALT. The issue researched within this paper is not, “Why is PALT longer for Defense S&T projects?”;

instead the question is, “As Defense S&T projects are less tolerant of any delay, how can we reduce the standard PALT to accommodate them?.”

B. CONTENT

Chapter II provides background information to better understand the context of this research. Chapter III includes a discussion of relevant literature on analyses of PALT and reasons for schedule slip. Since PALT is closely tied to and effected by the procurement process, the literature review also includes changes to the procurement process over the years. Chapter IV includes a discussion of research method, providing the methodology and procedures to be taken during this case study into the NUWCDIVNPT procurement process. Chapter V details the process of actual data collection and the findings revealed. Finally, Chapter VI provides a summary of findings for Chapter V, as well as a recognition of research limitations, and recommendations for further research.

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II. BACKGROUND

A. DEFENSE SCIENCE AND TECHNOLOGY PROJECTS

Sargent (2018) describes Defense S&T as follows:

Defense S&T is a term that describes a subset of Department of Defense (DOD) RDT&E activities. The Defense S&T budget is the aggregate of funding provided for the three earliest stages of DOD RDT&E: basic research, applied research, and advanced technology development. Defense S&T is of particular interest to Congress due to its perceived value in supporting technological advantage and its importance to key private sector and academic stakeholders. (p. 2)

The three earliest stages of DOD RDT&E Budget Activities are defined by the Financial Management Regulation (FMR) Volume 2B, Chapter 5, (2017) as follows:

Budget Activity 1, Basic Research. Basic research is systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind. (Under Secretary of Defense Comptroller, 2017, FMR Volume 2B, Chapter 5, 050105.A)

Budget Activity 2, Applied Research. Applied research is systematic study to understand the means to meet a recognized and specific need. (Under Secretary of Defense Comptroller, 2017, FMR Volume 2B, Chapter 5, 050105.B)

Budget Activity 3, Advanced Technology Development (ATD). This budget activity includes development of subsystems and components and efforts to integrate subsystems and components into system prototypes for field experiments and/or tests in a simulated environment. (Under Secretary of Defense Comptroller, 2017, FMR Volume 2B, Chapter 5, 050105.C)

In short, Defense S&T projects falling under RDT&E Business Activities 1–3 are working to understand, study, and develop unknown quantities. As such, NUWCDIVNPT Defense S&T projects tend to be of a smaller scale than projects of other types, in both scope and timeline, with less people, less money, and less time to accomplish the defined project goals.

As Defense S&T projects are essentially investigations into defined areas of interest, their completion has no immediate effect on the Fleet and warfighter; in that the success of a Defense S&T project does not necessarily directly relate to immediate changes

to existing systems. However, the research completed under Defense S&T projects provides further understanding into areas of interest that support RDT&E Projects under RDT&E Budget Activity 4: Advanced Component Development and Prototypes (ACD&P), which focuses on efforts to “expedite technology transition from the laboratory to operational use” (Under Secretary of Defense Comptroller, 2017, FMR Volume 2B, Chapter 5, 050105.D.). As such, Defense S&T projects are vital to the Navy’s relevancy and superiority; and any stop-work experienced under these projects as a result of extended PALT is not to be tolerated.

B. NUWCDIVNPT PURCHASE REQUISITION REQUEST RECORDS

The following Material Management Tracking System (MMTS) Report Summary, included as Table 1, shows a breakout of all of the Purchase Requisition (PR) actions processed by NUWCDIVNPT during FY19, 01 October 2018 to 30 September 2019. Table 1 is an original infographic developed by the author from Source Selection Sensitive MMTS data. Due to the sensitive nature of the MMTS data, only this summary data is included within this research project.

Table 1. MMTS Report Summary, NUWCDIVNPT FY19

Acquisition Method	Total Number of Records	Total Number of S&T Records	Submission Date to PR Creation Date (days)		
			Minimum	Maximum	Average
Contract	3149	0	0.0	189.0	7.4
Deobligation	886	0	0.0	65.0	2.3
DLA/ MILLSBILLS	97	0	1.0	35.0	9.6
ERP Transfer	3	0	0.0	2.0	0.7
MILSTRIP	6204	0	0.0	181.0	14.7
Other (N/A)	8	0	1.0	8.0	3.5
P-Card	9051	627	0.0	142.0	11.0

Adapted from MMTS data pulled 12 December 2019

Each of the records in Table 1 refers to an action processed in MMTS, where a NUWCDIVNPT Department requested the creation or change to a PR in Navy Enterprise Resource Planning (ERP). Since the PR centralization reorganization, NUWCDIVNPT Purchase Requisition Branch (Code 1071) has the sole responsibility to create and amend

PR in Navy ERP. After the creation or amendment of the PR, each of the acquisition methods follow a different process. All of the previously mentioned acquisition methods fall into two categories, procurement actions and administrative actions.

1. Procurement Actions

Procurement actions include acquisition methods which result in the purchase of supplies or services: Contract, DLA/MILLSBILLS, MILSTRIP, and P-Card.

The acquisition method “Contract” refer to records requesting the creation of a PR for the purpose of funding a contract or task order awarded by a warranted Procuring Contracting Officer (PCO). All of these actions are processed pre-award by NUWCDIVNPT Contracts Department (Code 02).

The acquisition method “DLA/MILLSBILLS” refers to records requesting procurements and changes to PRs for Defense Logistics Agency (DLA) and Military Standard Billing System (MILSBILLS) actions.

The acquisition method “MILSTRIP” refers to records requesting the creation of a PR for the purchase of office supplies or materiel using Military Standard Requisitioning and Issue Procedures (MILSTRIP).

The acquisition method “P-Card” refers to records requesting the creation of a PR for the purpose of purchasing supplies or services using the GPC program. All of these procurement actions are processed pre-award by Code 1071.

2. Administrative Actions

Administrative actions include all non-procurement type actions: Deobligation, ERP Transfer, and Other (N/A).

The acquisition method “Deobligation” refers to records requesting the administrative amendment of a PR, to initiate the process of de-obligating funding from a Purchase Order (PO). After the creation of the PR amendment, the deobligation process can be administered by Code 1071, Code 02, or the NUWCDIVNPT Comptroller Department (Code 01), depending on the type and status of the original procurement.

The acquisition method “ERP Transfer” refers to records requesting Navy Enterprise Resource Planning (ERP) transfer actions. When a Code 1071 procurement screener finds that there is material available in Navy ERP inventory, the Requirements Generator (RG) is notified and the procurement path stops. The RG would contact the owner of the on hand inventory and ask if they can have the item or borrow it with future payback. If they cannot have what is in inventory, the procurement request gets re-submitted for processing (J. Groccia, personal communication, September 11, 2021).

The acquisition method “Other (N/A) “ refers to records for which no acquisition method was entered in MMTS.

3. Defining Scope

Making the distinction between procurement actions and administrative actions is useful for the review of the data pulled from MMTS, but further discussion of the processing of administrative actions is out of scope of this research. The remainder of this project focuses on the procurement action acquisition methods listed previously.

C. “P-CARD” ACQUISITION METHOD

As shown by the MMTS data provided in Table 1, all of the NUWCDIVNPT Defense S&T project procurements processed in FY19, 01 October 2018 to 30 September 2019, fall under the Acquisition Method “P-Card.”

The GPC Program at NUWCDIVNPT is governed by the processes detailed in the NAVSEA GPC Internal Operating Procedures (IOP) (Naval Sea Systems Command 2018). The NAVSEA GPC IOP stipulates that, “with proper delegated authority from the HA/CO or designee, the GPC may be used as” the method of payment for micro-purchases; Miscellaneous Payment for Training, Education, and Professional Development (TE&PD); Intergovernmental Payments; and orders placed (written or electronic) against a contract by a warranted PCO (p. 4-6). Of the types of actions listed that can use GPC as a method of payment, the “P-Card” acquisition method refers to micro-purchases processed pre-award by Code 1071.

The FAR discusses “Actions At or Below the Micro-Purchase Threshold” under FAR Subpart 13.2. FAR 13.201(b) stipulates that, “the Government-Wide commercial purchase card shall be the preferred method to purchase and to pay for micro-purchases.” (FAR 13.201, 2021). NAVSEA GPC IOP (Naval Sea Systems Command, 2018) provides that the thresholds for using GPC as a method of payment for micro-purchases for DOD Science and Technology Reinvention Laboratories (to include NUWCDIVNPT) is \$10,000 for supplies and \$2,500 for Service Contract Labor Standards (SCLS) services, and \$2,000 for construction services subject to Wage Rate Requirements (Naval Sea Systems Command 2018, p. 4).

Micro-purchases are unique requirements, as per FAR 13.201(d), “Micro-purchases do not require provisions or clauses” (FAR 13.201, 2021), and due to the low dollar threshold, the purchasing guidelines and requirements are less administratively burdensome than other higher dollar requirements. FAR 13.203 provides the following purchasing guidelines:

(a) Solicitation, evaluation of quotations, and award. (1) To the extent practicable, micro-purchases shall be distributed equitably among qualified suppliers. (2) Micro-purchases may be awarded without soliciting competitive quotations if the contracting officer or individual appointed in accordance with 1.603-3(b) considers the price to be reasonable. (3) The administrative cost of verifying the reasonableness of the price for purchases may more than offset potential savings from detecting instances of overpricing. Therefore, action to verify price reasonableness need only be taken if- (i) The contracting officer or individual appointed in accordance with 1.603-3(b) suspects or has information to indicate that the price may not be reasonable (e.g., comparison to the previous price paid or personal knowledge of the supply or service); or (ii) Purchasing a supply or service for which no comparable pricing information is readily available (e.g., a supply or service that is not the same as, or is not similar to, other supplies or services that have recently been purchased on a competitive basis).

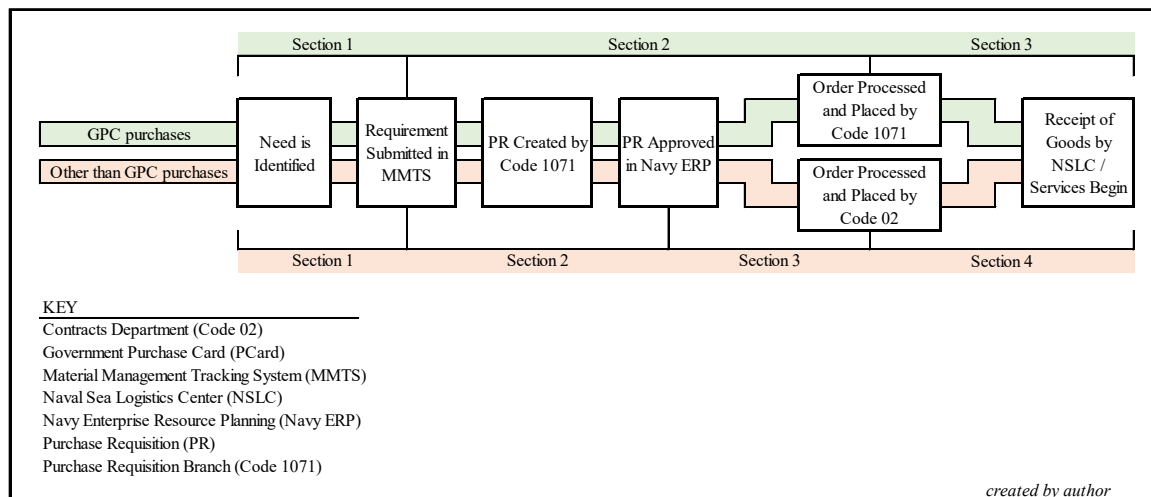
(b) Documentation. If competitive quotations were solicited and award was made to other than the low quote, documentation to support the purchase may be limited to identification of the solicited concerns and an explanation for the award decision. (FAR 13.203, 2021)

D. PROCUREMENT PATHS

All NUWCDIVNPT procurement actions currently take one of two main paths. The first path, “GPC purchases,” includes procurement actions that, after the creation of a PR, are processed pre-award by the Code 1071: including the acquisition methods “DLA/ MILLSBILLS,” “MILSTRIP,” and “P-Card.” The second path, “other than GPC purchases,” includes initial procurement actions that, after the creation of a PR, are processed pre-award by Code 02 under the acquisition method “Contract.” This second path includes all contracting actions that require Terms and Conditions, including but not limited to: Simplified Acquisition Procurements (SAP); the addition of incremental funding to contracts and orders; and the award of major contracts and orders.

For visual clarification on the procurement paths, please refer to Figure 1.

Figure 1. Procurement Path Infographic



Adapted from conversations with Code 15 GPC Specialist (J. Powers, personal communication, February 9, 2021), Code 15 Financial Analyst (A. Tetreault, personal communication, February 9, 2021), Code 45 Business Operations Lead (C. Green, personal communication, March 8, 2021) and Code 10 General Equipment Manager (J. Groccia, personal communication, September 11, 2021).

As shown by the MMTS data provided in Table 1, all of the NUWCDIVNPT Defense S&T project procurements processed in FY19, 01 October 2018 to 30 September 2019, fall under the Acquisition Method “P-Card.” Therefore, the remainder of this

research focuses on the process of the first path, specifically as it applies to the “P-Card” acquisition method, shown in Figure 1 as “GPC Purchases,” from now on referred to as the GPC Procurement Path.

E. GPC PROCUREMENT PATH SECTIONS

The GPC Procurement Path can be split into three distinct sections:

Section 1 includes the time between when the RG knows that a need exists until when the requirement is submitted in the MMTS. This section is completed by TPM and other Technical Points of Contact (TPOC) within individual projects.

Section 2 includes the time the packages is processed in MMTS, which includes the time between MMTS record creation by the RG to order placement by the Code 1071.

Section 3 includes the time from order placement by Code 1071 to either receipt of item by the RG, or the date that the contractor begins services. This includes processing time by the vendor, shipping time, and Receipt Control processes carried out by the Naval Sea Logistics Center (NSLC), Naval Facilities Engineering Systems Command (NAVFAC), and NUWCDIVNPT General Equipment Branch (Code 1073).

F. PROCUREMENT PATH STAKEHOLDERS

This project describes procurement path stakeholders in two general ways; “who are the stakeholders” and then “what do the stakeholders do.” This chapter will clarify “who are the stakeholders,” providing descriptions for the most common types of the stakeholder and the type of expertise required. The second discussion of “what do the stakeholders do,” describing what function each stakeholder serves and how that function helps a procurement progress down the path, is described in detail in Chapter IV. Multiple stakeholders exist for each procurement action; note that other stakeholders may exist for individual procurement actions, dependent on what is being purchased, and the following listing of stakeholders listed are what are required for most actions.

1. Separation of Function

Department Of Navy Policies And Procedures For The Operation And Management Of The Government Commercial Purchase Card Program (eBusiness Operations Office 2003) requires two-way separation of function for all purchases made under the Department of the Navy Purchase Card Program, to include separate buying and receiving functions. In response to Naval Sea Systems Command (NAVSEA) Special Review Team (NSRT) audits, NUWCDIVNPT has further restricted this requirement to require four-way separation of function, to include roles for Controls the Funding; Defines the Requirement; Receipt and Inspection of Services/Deliverables/End Items; and inspection and acceptance as it pertains to Invoice submission through WAWF and vendor reports in Electronic Cost Reporting and Financial Tracking (eCRAFT) Enterprise (Naval Undersea Warfare Center Division Newport Contracts Department, 2021a). The following descriptions are taken directly from the NUWCDIVNPT Contract Administration Plan template version 1.8_February2021:

Controls the Funding: Individual who is accountable for authorizing allocation of funding for award on a contract/order. Cannot perform any other role/function. Although this individual may participate in the performance of other functions, this individual shall not have primary decision-making authority for any other function.

Defines the Requirement: Individual who is accountable for defining the requirements used to generate the documents that go into the Request for Proposal and eventual contract/order.

Receipt and Inspection of Services/ Deliverables/ End Items: Individual who physically receives the services/deliverables/end items required by the contract. Performs the inspection of those services/deliverables/end items to ensure compliance with requirements contained in contract/order. Based on results of inspection reports to the Contracting Officer Representative (COR) (or Point of Contact (POC) responsible for Acceptance) as to whether the services/deliverable/end items comply with the requirements of the contract/order. If eCRAFT Enterprise reporting applies, reporting to the COR on individual eCRAFT Enterprise vendor reports shall be performed within the eCRAFT Enterprise system.

Inspection and Acceptance as it pertains to Invoice submission through WAWF and vendor reports in eCRAFT Enterprise (if applicable): Individual who reviews the invoice and required documentation (including eCRAFT Enterprise vendor reports if applicable) to determine if the charges

submitted are acceptable or not based on the effort reported or deliverables received.

All of the identified individuals shall have the required authority, warrant, qualification, certification and/or training to perform these functions. (Naval Undersea Warfare Center Division Newport Contracts Department, 2021a)

2. Section 1 Stakeholders

Section 1 of the GPC procurement path is processed by the Requiring Department (RD). Stakeholders in this section include the Sponsoring Agency, TPM, RG, Financial Analyst, MMTS Submitter, and Funds Control Approver. Descriptions of the persons who hold these positions are listed below. The steps that each of these stakeholders are responsible for is described in Chapter V.

Sponsoring Agency: In the 2018 Defense Science and Technology Funding Report from the Congressional Research Service, Sargent (2018) states that in Fiscal Year 2016 the DOD spent roughly \$2.3 billion on basic research (p. 9), and that the Navy accounted for the largest share of that \$2.3 billion with \$679 million of funding (29.2%) (p. 9). NUWCDIVNPT has historically received basic research funding for Defense S&T project from a wide variety of sponsoring agencies including individual agencies that fall under the Services (Navy, Army, Air Force) and other Defense-Wide Agencies, such as the Defense Advanced Research Projects Agency (DARPA).

TPM: TPM are responsible for day-to-day technical execution and leadership of their assigned project. TPM provide program direction, oversight, risk management and leadership to a multi-disciplined team of engineers, scientists, technicians, and software developers; and interact directly with Sponsoring Agencies and local leadership to establish yearly task assignments, negotiate funding levels, manage workload and provide risk assessment and project status. TPM are also responsible for guiding and integrating the efforts of task leaders involved in requirements generation, systems engineering and test & evaluation; establishing project technical objectives and approaches including scope, schedule, deliverables and cost as agreed to by the Sponsoring Agency; working with other NUWCDIVNPT departments, government activities, academia and industry to acquire needed technical expertise and coordinating joint product development and delivery;

developing, monitoring and negotiating changes necessary to budget, schedules and milestones; assessing program progress/earned value and making adjustments to schedules and resources , as required; evaluating technical progress and risk areas, resolving technical conflicts and making technical trade-offs. At NUWCDIVNPT, most TPM fall under the Office of Personnel Management (OPM) Engineering and Architecture Group 0800 or Physical Science Group 1300.

RG: RG perform the “Defines the Requirement” function for an individual requirement. The RG could be the same person as the TPM or End User, but cannot hold another separation of function role.

Financial Analyst: Financial Analysts “serve as analysts and advisors to management on the evaluation of the effectiveness of government programs and operations or the productivity and efficiency of the management of Federal agencies or both” (Office of Personnel Management 2018, p. 40). Financial Analysts also “perform, supervise, or manage administrative work of a fiscal, financial management, accounting, or budgetary nature” (Office of Personnel Management 2018, p. 50). NUWCDIVNPT Financial Analysts generally fall under OPM Occupational Series 0343, Management and Program Analysis; or Series 0501, Financial Administration and Program.

MMTS Submitter: Each RD handles this role differently, but generally, the MMTS submitter is either the same person as the RG or is a technical or administrative support person that works in the RD business office and may or may not have technical knowledge about the individual requirement. In the latter instance, MMTS Submitters generally fall under OPM Occupational Series 1101, General Business and Industry.

Funds Control Approver: The position of Funds Control Approver is one of the two stakeholders that are responsible for the “Controls the Funding” function. The Funds Control Approver is responsible for certifying that the requirement, as submitted in MMTS, is allocating the correct funding for the project. At NUWCDIVNPT this job is generally performed by TPM or department senior leadership, such as branch heads or division heads.

3. Section 2 Stakeholders

Section 2 of the GPC procurement path is processed by Code 1071, but includes RD stakeholders as well as Code 1071 stakeholders. Stakeholders in this section include the Procurement Screener, PR Creator, and PR Approver. Descriptions of the persons who hold these positions are listed below. The steps that each of these stakeholders are responsible for is described in Chapter IV(A).

Procurement Screener: Procurement Screeners work in Code 1071, and ensure all material data submitted in MMTS is accurate and assigns method of procurement. NUWCDIVNPT Procurement Screeners fall under OPM Occupational Series 1101, General Business and Industry.

PR Creator: PR Creators work in Code 1071, and are responsible for entering and submitting purchase requisitions to the Navy ERP system workflow following all related NAVSEA procurement and supply system business rules. NUWCDIVNPT PR Creators fall under OPM Occupational Series 1101, General Business and Industry.

PR Approver: Multiple PR Approvers can exist for a single procurement action, to include at least one person in the NUWCDIVNPT senior leadership of the project usually called the Approving Official, and a POC from Code 01. Additional PR Approvers could include a POC from the Sponsoring Agency Comptroller or senior leadership, and NUWCDIVNPT Control Points. The Approving Official is second stakeholder in the procurement process to perform the “Controls the Funding” function; they are responsible for confirming that the proper funding is being used for the specific procurement. NUWCDIVNPT Control Points are required for procurements of specific types (air conditioning, boats, cameras, and ergonomics, to name a few) that have complicated rules. The Control Points confirm that an acquisition for the specified type adheres to all the specialized rules for a procurement of that type of supply/service. PR approvers must have access to and permissions for Approver roles in Navy ERP; with the exception that some of the Control Points have permission to approve a requirement outside of Navy ERP.

4. Section 3 Stakeholders

Section 3 of the GPC procurement path is processed by Receipt Control, which includes Code 1073, NSLC, and NAVFAC personnel. Once processing is complete, items are delivered to the RD End User. Descriptions of the persons who hold these positions are listed below. The steps that each of these stakeholders are responsible for is described in Chapter V.

Receipt Control: Roughly twenty-five (25) persons work for Receipt Control in the Naval Station Newport, Building 47 (BL47) warehouse, including personnel from NUWCDIVNPT Code 1073, NSLC, NAVFAC, and contractors. Six (6) Government employees work to administratively process packages when they arrive, the remaining twenty-one (21) persons work to maintain the storage bay; and drive forklifts and delivery vehicles. Contractors are not allowed to work to administratively process packages and cannot touch Classified material. NAVFAC personnel handle the delivery of all heavy freight packages.

End Users: Due to NUWCDIVNPT Separation of Function rules, up to two (2) end users need to exist for each service/material purchased ordered; one to confirm “Receipt and Inspection of Services/Deliverables/End Items,” and a second to approve “Inspection and Acceptance as it pertains to Invoice submission through WAWF and vendor reports in eCRAFT Enterprise,” if applicable. The end user works within the RD, and could be anyone who works under the specific Defense S&T project that ordered the material.

G. DEFINING PROCUREMENT ACTION LEAD TIME (PALT)

Commonly the acronym PALT is used in one of three ways:

1. The average time for a type of action to be processed,
2. The length of time it takes to process a single action, from need identification to receipt control (receipt of material or start of services), or
3. As the length of time it takes to process a single action, from need identification until order placement. In this third instance, the length of time from order placement to receipt control is frequently called

Procurement Production Lead Time (PPLT), and the overall process, including both PALT and PPLT is called Procurement Lead Time (PLT).

For the purpose of this case study, the distinction in PLT between pre-award actions and post-award action is unnecessary. Therefore, definition one will be referred to as Average PALT, while definition two will be referred to as PALT.

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III. LITERATURE REVIEW

In his article “The Revolution in Federal Procurement,” Taylor (2018) discusses some of the changes in the federal procurement process over the past 35 years; and how changes in technology, global competition, security threats, ideological shifts, and fiscal changes, have resulted in an increase in Defense spending, and changes in procurement regulations and processes. In responses to these changes, many articles have been written, over the years, to analyze the changes in the procurement process and to discuss the effect to the length of PALT.

Lodge (1986) analyzes the procurement process for supplies and non-personal services under \$25,000 within the Naval Postgraduate School (NPS) Small Purchase Branch, to improve “the efficiency and effectiveness of the Purchase Branch.” Lodge’s study (1986) not only analyzed how procurement actions were processed but took into account the working conditions and training program that the buyers working within the Procurement Branch experienced. Lodge (1986) determined that recent changes in regulation, mainly the Competition in Contracting Act (CICA) which was enacted in 1984, had significant impact on NPS requisitions between \$10,000 and \$25,000, causing the NPS Small Purchase Branch to consistently exceed the goal PALT for that type of action. Lodge (1986) also concluded that working conditions within the Small Purchase Branch, and irregularly scheduled and conducted trainings, negatively impacted buyer productivity.

Speights (1989) investigated the impact of the use of requirements contracts to reduce PALT at the Navy Aviation Supply Office. As a result of increased regulations in response to the early 1980s high spare parts scandals, Speights (1989) found that PLT had increased by approximately 60% at some DOD Inventory Control Points (ICP). Speights (1989) broke PLT into two phases, pre-award and post-award, calling the pre-award phase of the acquisition process PALT, and the post-award phase of the acquisition process PPLT. Speights (1989) determined that “there is a significant potential for reducing PALT at ASO by the expanded use of IDTC requirements contracts. More specifically, PALT for the inventory items included in this study can be decreased by as much as 19% by the use of IDTC/requirements contracts.” (p. 68).

While extended PALT can affect program/project schedules, schedules slip for a variety of reasons, Cashman (1995) identified and quantified the importance of “reasons for schedule problems across large Air Force system development efforts” (p. 3). Some of the reasons Cashman (1995) lists for schedule slip are in the “Contracting Category” which includes “(1) source selection of subcontractors and vendors (including request for proposal (RFP) preparation and proposal receipt), (2) placing subcontractors and vendors on contract, (3) processing purchase orders, and (4) terminating subcontractors.” (pp. 40–41).

The DOD Office of the Inspector General (IG) Audit Report D-200-008 DOD Acquisitions Workforce Reduction Trends and Impacts (2000) evaluated the impacts of DOD acquisition workforce and workload reductions. One of the impacts this report identifies is an increase in PALT for NAVSEA. Data showed a sixty-three percent (63%) increase in PALT, during the same time period that NAVSEA experienced a contract division staff decrease of ten percent (10%) and an increase in contract actions greater than \$25,000 by twenty-five percent (25%) (Office of the Inspector General, 2000).

Lamoureaux et al. (2015) investigated the relationship between source selection method and its effect on PALT and Contractor Performance Assessment Report System (CPARS) ratings, with the intention of finding a source selection method that keeps PALT as low as practical and CPARS ratings as high as possible. While no correlation between source selection, PALT and CPARS was found, Lamoureaux et al. (2015) bring up an important point that “each requirement be fully understood in order to make the best decision as to whether the LPTA or tradeoff source selection method is more appropriate.”

Chung et al. (2018) identify factors that affect PALT for actions greater than \$500 million. Chung et al. (2018) recognized that different types of procurements have different average PALT, but that additional variables also have the ability to extend PALT to include the proposal and evaluation of additional subcontractors, and the use of Foreign Military Sales (FMS) funding. In addition, Chung et al. (2018) found that some Program Executive Officer (PEO) offices were determined to be significant variables in relation to PALT as well.

- Implications

Department of Defense procurement environment (processes and regulations) are continually changing. As the environment changes, we need to continually review our current processes to determine if our actions are as efficient as possible. As can be seen in the Chapter III literature review, a review of current processes is common, and has happened multiple times in the past with a variety of intentions and focus. Cashman (1995) framed his case study to collect “meaningful schedule-related data” to be provided as a “a coherent framework” to be “used by the managers of today to solve the schedule problems of tomorrow,” and this research has a very similar goal. This study reviews the current procurement processes at NUWCDIVNPT to identify common issues and areas that warrant more research, in an attempt to provide NUWCDIVNPT leadership with the tools to look at the procurement process more critically.

As it currently stands, the NUWCDIVNPT procurement process is a one-size-fits-all solution, which ill-fits unique projects which are sensitive to extended PALT, such as Defense S&T projects. Identifying common problems experienced by Defense S&T projects and Subject Matter Experts (SME) within each stage of the procurement process could identify ways to shorten PALT or prevent extended PALT.

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IV. METHODOLOGY AND PROCEDURES

As discussed in Chapter I, the issue of “Speed in RDT&E,” and struggling with ‘slow acquisitions’ appears to be expressed by most NUWCDIVNPT Defense S&T projects TPM, but the true cause is not evident on the surface. The primary objective of this research is to identify and analyze commonalities in GPC procurement PALT for NUWCDIVNPT Defense S&T projects actions during FY19. This analysis may allow for the development of expedited procurement solutions. Both quantitative data and qualitative research are used to explore the current knowledge gap.

The remainder of this section describes the specific data collection methodologies used to analyze each Section of PALT.

A. QUANTITATIVE DATA—SYSTEM PROVIDED METRICS

Quantitative data, in the form of system provided metrics, were collected to measure, and compare PALT of various action types. Acquisition related metrics were pulled from MMTS and from Acquisition Tracking System (ATS).

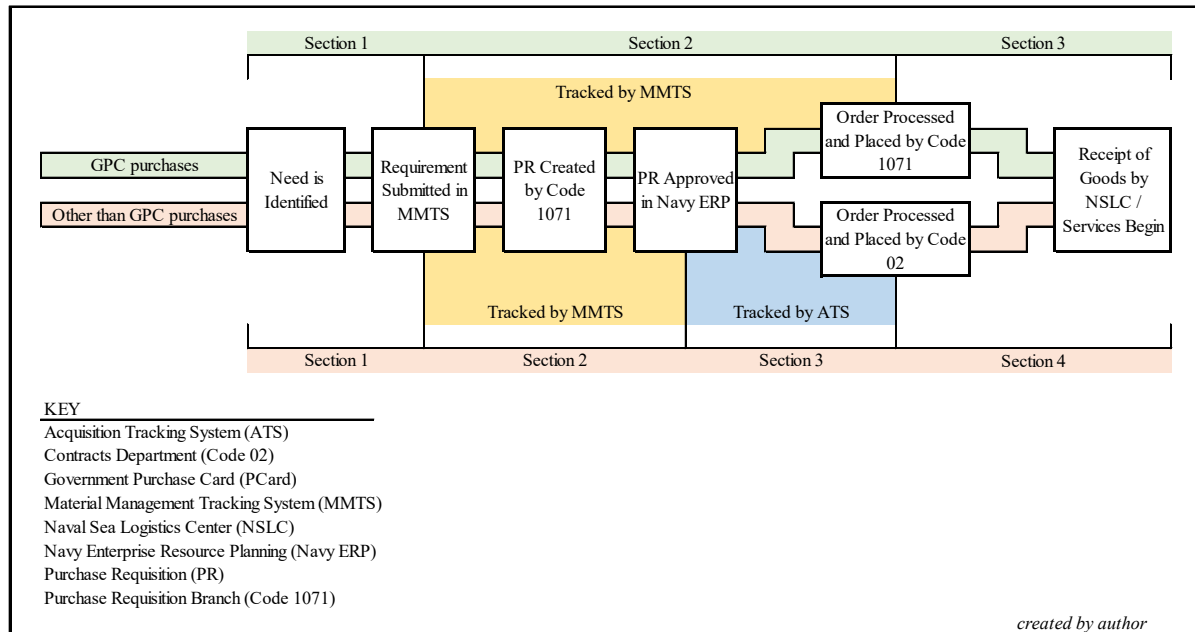
The following provides an explanation of each system’s function as well as the methodology for analyzing the data.

1. Material Management Tracking System (MMTS)

MMTS is a program created and run by the NUWCDIVNPT Advanced Interactive Management Technology Center (AIMTC). MMTS tracks Section 2 of the procurement path, which for GPC purchases, includes MMTS record creation through order placement by Code 1071.

For visual clarification on what Sections are tracked in MMTS, please refer to Figure 2.

Figure 2. Acquisition Tracking System Coverage Infographic



Adapted from conversations with Code 15 GPC Specialist (J. Powers, personal communication, February 9, 2021), Code 15 Financial Analyst (A. Tetreault, personal communication, February 9, 2021), Code 45 Business Operations Lead (C. Green, personal communication, March 8, 2021) and Code 10 General Equipment Manager (J. Groccia, personal communication, September 11, 2021).

Reports provided by MMTS include the following data points for each line item:

- | | | |
|----------------------------------|------------------------------------|----------------------------|
| • Order # | • Manufacturer Part # | • PR Creator |
| • Line Item # | • Description | • PR Creator Approval Date |
| • Priority | • Quantity | • Requestor |
| • Number of Returns | • Unit Cost | • Submitter |
| • Submit Date | • Finance | • NWA |
| • Duration | • Finance Approval Date | • Purchase Request # |
| • Ordered Date | • Fund Controller | • Purchase Obligation # |
| • Expected Delivery Date | • Fund Controller Approval Date | • MILSDOC # |
| • Department | • Technical Screener | • Acquisition Method |
| • Project | • Technical Screener Approval Date | • Total Line Item Cost |
| • Unique Material Master (UMM) # | | • Surcharge |
| | | • Grand Total |

Note that the two data points listed that mention Technical Screener are referring to the Procurement Screener. Technical Screener is the old term, which was updated to Procurement Screener following a NUWCDIVNPT GPC RIE (2018) when it was

determined that the term Technical Screener was misleading as the personnel performing the screening were not evaluating technical information and were instead reviewing the file for completeness. MMTS has not been updated to reflect this change in terminology.

The MMTS report is downloaded in Excel format which allows for easy formatting and evaluation of data. MMTS data will be filtered by Acquisition Method and again by Project, to allow for the comparison of like actions for both Defense S&T projects and non-Defense S&T projects. Then, additional columns will be added to calculate the total length of time each individual 'Order' took to process through MMTS, and those columns will be averaged to allow for a comparison of Defense S&T project Average PALT and Non-Defense S&T Average PALT for each type of action. As MMTS data is considered Source Selection Sensitive, it will not be included with this project.

2. Evaluation of System Provided Metrics

As system metrics are unbiased, this data is valuable in determining if there is a difference between actual PALT for Defense S&T project actions, as compared to PALT for non-Defense S&T project actions. Identifying if a difference exists is the first step in determining what the cause(s) of the 'slow acquisitions' issues associated with Defense S&T procurement actions.

If the metrics show that there is no difference in the PALT for Defense S&T and non-Defense S&T procurements, we can assume that the cause of the complaints is rooted in the shorter period of performance afforded to NUWCDIVNPT Defense S&T projects, and that further research is necessary to determine where in the current process that PALT may be shortened for these specific project types.

Alternatively, if the metrics show that the PALT for Defense S&T and non-Defense S&T procurements are different, we can assume that the cause of the complaints is rooted in the approach taken by Defense S&T procurement SME to the current procurement process. In this case, Defense S&T procurement SME may need additional training or support to better meet the needs of their program/project. This research is accomplished through the collection of qualitative data as described as follows.

B. QUALITATIVE DATA—SUBJECT MATTER EXPERT (SME) DISCUSSIONS

The original plan for the collection method for qualitative data was to distribute surveys requesting that SME describe the processes they use to carry out their jobs. After initial discussions with SME to determine the best questions to be distributed, it was determined that each Section of PALT is so unique that having SME answer a single set of questions would not be as beneficial as other forms of data collection could be. Therefore, it was determined that qualitative data was to be collected through individual discussions with SME of each section, so that the original survey questions could be adjusted in real time by the author, dependent on the authors' misconceptions of the process, and various process issues identified by SME during discussions.

Discussions with SMEs identified variables not visible in the system provided metrics, and commonalities between actions themselves and within the RG perception of different types of procurement actions. Conversations were had with both RG and acquisition process SME (the SME who process actions through individual Sections of PALT), to further understand how actions progress through each stage, and understand which stages take the most time. While the actual questions posed to RG and SME were based on the specification Section of PALT that the individual had experience in, the main focus of all discussions was the same: to understand the requirements and processes that took place during each Section of PALT, and to identify common issues/problems/bottlenecks that were experienced within the current process.

1. Section 1—Requirements Generation

Appropriate and relevant data pertaining to the process of Requirements Generation, was collected through discussions with RG working for Defense S&T projects. Prior to contacting the RG, the following questions were identified as important areas of discussion, recognizing that additional areas of discussion would present themselves as the discussions progressed.

- What types of services/supplies are being ordered by Defense S&T projects?

- What methods are being used to order the necessary services/supplies?
- What training, if any, are RG being provided?
- What systems interfaces are required during this Section?
- What types of POC are required during this Section?
- Where are the bottlenecks being created in this Section?

2. Section 2—MMTS Record Creation to Order Placement

Code 1071 Processing is primarily transactional. The data collected to evaluate Section 2 is largely quantitative data and is described in Chapter V.

3. Section 3—Receipt Control

Appropriate and relevant data pertaining to receipt control, was collected through discussions with RD Property Leads (M. Snyder and P. Atwood, personal communication, April 28, 2020) and BL47 Receipt Control POC (A. Jordan and S. McLane, personal communication, 09 March 2021), and through review current process documents. Prior to contacting the SME, the following questions were identified as important areas of discussion, as with the requirements generation questions, it was recognized that additional areas of discussion would present themselves as the discussions progressed. Data collection focused on commonalities in the receipt control process.

- Do any guides or Standard Operating Procedures (SOP) exist for the Receipt Control process?
- Do types of material get categorized in any way? Do different processes exist for each category?
- What are the steps involved after the order is placed?
- What part of the process provides the most benefit? Which part of the process are the most errors/issues encountered?

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V. DATA COLLECTION AND FINDINGS

As discussed in Chapter IV, Methodology and Procedures, both quantitative data and qualitative research are used to explore the current knowledge gap. The remainder of this section describes the steps involved in each section of the GPC Procurement Process, the research data that was collected, the implications of that data, and discussion points. Discussion points in this section are issues that are commonly encountered by SME. While some discussion points are unavoidable, potential recommendations are provided for others. Recommendations for process improvement and recommendations for further study are summarized in Chapter VI.

A. SECTION 1—REQUIREMENTS GENERATION

As discussed in Chapter I, the original task as set forth by the NUWCDIVNPT Deputy Technical Director was to determine why Defense S&T TPM experienced more issues with ‘slow acquisitions’ than other TPM of other project types. As the phrase “slow acquisitions” is not very descriptive, data collection began in an effort to determine what specific issues SME were encountering. Qualitative data was collected through interactive discussions with SME of each PALT section, so that the questions could be adjusted by the author, dependent on the authors’ misconceptions of the process, and various process issues identified by SME.

The MMTS data showed the preponderance of trackable Defense S&T project actions submitted in FY19 were submitted by NUWCDIVNPT Sensors and SONAR Systems (Code 15) run projects. As such, multiple in person and phone meetings were scheduled with Code 15 TPM, RG, and financial analysts to better understand the steps that are taken to create and begin work under a Defense S&T project; and to determine the source of the “slow acquisitions” issues that each SME had experienced.. The authors notes from meeting with Code 15 TPM and RG (M. Snyder, F. Blackman, M. Grden, D. Young, K. Kaplan, N. Mayo, M. Williams, M. Rice, K. Czepizak, S. Freeman, and M. Kroger, personal communication, November 14, 2019) are included as Appendix A.

1. GPC Procurement Path Section 1 Process

Section 1 of the GPC Procurement Path involves all the Procurement Path steps that are processed by the RD, and includes five (5) different stakeholders.

The first two (2) steps, taken by the RG and Sponsoring Agency, are where the Defense S&T project comes into being. Initially, the RG will propose goal tasking to a Sponsoring Agency by submitting a task statement. The proposed tasking for Defense S&T projects, falls under RDT&E Budget Activities 1 – 3, as described under Chapter II, and could include a variety of basic research, applied research, or ATD. Once the Sponsoring Agency has approved this task statement, the Sponsoring Agency provides funding document(s) to NUWCDIVNPT. The funding document(s) are used for both the direct labor, materials, and services to complete the Sponsoring Agency approved tasking.

The third step is taken by the Financial Analyst. Upon receipt of the funding document from the Sponsoring Agency, the Financial Analyst reviews, loads, and accepts the funding as described in The Financial Manager's Reference Guide, Section 10 (Naval Undersea Warfare Center Division Newport, 2019b). In processing the funding document the Financial Analyst loads the information into Automated Funding Document Acceptance (AFDA) and Navy ERP and routes the document for local approvals. Once accepted, the Financial Analyst can use the loaded funding document information to create project structures and Network Activity (NWA) in Navy ERP that the RG can charge direct labor, materials, and services against.

The first three (3) steps in GPC Procurement Path Section 1 all take place prior to the start of a Defense S&T project. While these steps are important to note, they are not included in any PALT timeline as it applies to this JAP. Therefore, the remainder of this section on Data Collection and Findings for GPC Procurement Path Section 1 focuses on the remaining four (4) steps in the process, where the RG starts the process for purchasing material and the requirement is processed through the RD.

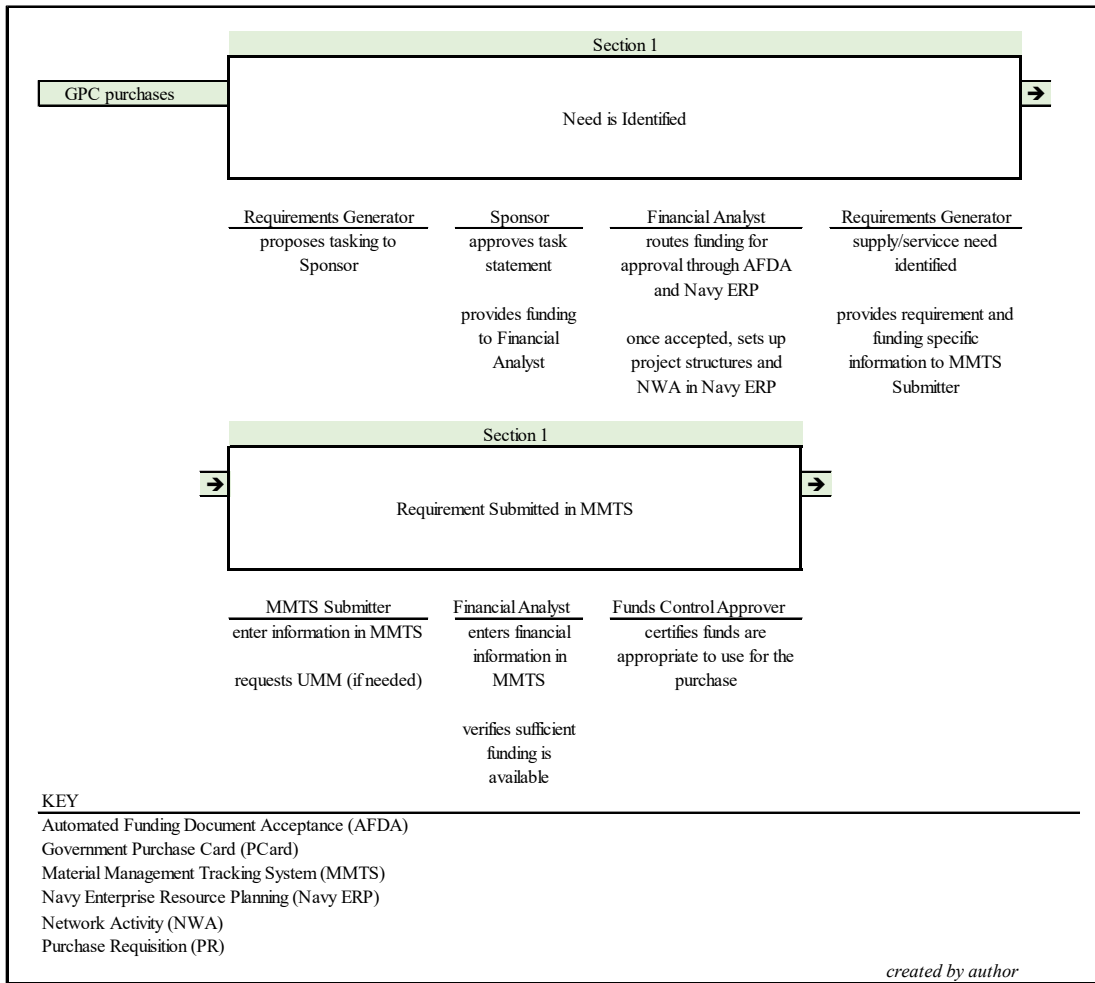
The fourth step is where the RG identifies that a need exists for the purchase of supplies and/or services, they create the necessary documentation and submit it to the MMTS Submitter. Necessary documentation varies depending on requirement size, type

and item commerciality. For GPC procurements, documentation could include market research quotes, sole source or brand name justifications, delivery locations and POC, Information Technology Procurement Requests (ITPR), and financial information such as NWA and PR numbers.

Under steps five (5) through eight (8), the MMTS Submitter will take this information and enter it into MMTS, upload the required documents, and find/create a request UMM number for Operating Materials and Supplies (OM&S) purchases. Note that while MMTS submitters are able to find or request a UMM number themselves, this is not required at this stage, as the Code 1071 Procurement Screener also has the ability to check the manufacturer part number for an ERP UMM match; if the Procurement Screener is not able to find a UMM, they will request that one be created. After submission in MMTS the requirement is forwarded to the Financial Analyst who enters additional funding information and verifies that sufficient funding is currently available, and then to the Funds Controller, which is usually a technical person and not a Financial Analyst who certifies that the funding being used is appropriate for the purchase being made. Then the requirement moves to GPC Procurement Path Section 2, which is primarily processed by Code 1071.

Figure 3 is provided to further clarify the detail of this section of the GPC Procurement Path. While Figure 1 (in Chapter II) and Figure 2 (in Chapter IV) show the overall procurement path for both GPC and Other than GPC purchases; Figure 3 provides additional detail for GPC Procurement Path Section 1. Figure 3 is an original infographic developed by the author from conversations with a GPC SME and Financial Analysts.

Figure 3. GPC Procurement Path Section 1 Detail



Adapted from information from conversations with Code 15 GPC Specialist (J. Powers, personal communication, February 9, 2021), Code 15 Financial Analyst (A. Tetreault, personal communication, February 9, 2021), Code 45 Business Operations Lead (C. Green, personal communication, March 8, 2021) and Code 10 General Equipment Manager (J. Groccia, personal communication, September 11, 2021).

2. The Nature of Defense S&T Projects

The first discussion point for GPC Procurement Path Section 1 has to do with the nature of Defense S&T projects. As previously discussed under Chapter II, Defense S&T projects fall under RDT&E Business Activities 1–3, focusing on basic research, applied research, or ATD. As the work is not clearly defined as the start, Defense S&T RG cannot easily predict what supplies and services they will need in advance. As such, extended PALT frequently becomes a work stoppage until supplies or services are received. Work

stoppage is especially disruptive to Defense S&T projects, as the period of performance for the majority of NUWCDIVNPT Defense S&T projects is limited to one (1) year, so any pause in work becomes a reduction of the work-years that can be spent coming up with a solution to the presented problem.

3. Issue 1—Limited Resources vs. Lack of Process Knowledge

The GPC Procurement process begins when the RG determines that they have a need for supplies/services and drafts documents to provide to the MMTS Submitter. Unlike systems-based projects which have larger budgets and require more manpower, Defense S&T projects are generally small in scale, with limited funding and very few personnel. As such, RG may not have previous experience in acquisitions and may not know where to start.

As noted in Appendix A, many complaints voiced by Defense S&T RG (M. Snyder, F. Blackman, M. Grden, D. Young, K. Kaplan, N. Mayo, M. Williams, M. Rice, K. Czepizak, S. Freeman, and M. Kroger, personal communication, November 14, 2019) in the 14 November 2019 meeting were focused on “Hang-Ups” encountered in the acquisition process. “Hang-Ups” included excessive document revision, process bottlenecks, and parts of the acquisition process that were considered by the Defense S&T TPM and RG present, to be unnecessary. Some of the “Hang-Ups” identified by Defense S&T RG (M. Snyder, F. Blackman, M. Grden, D. Young, K. Kaplan, N. Mayo, M. Williams, M. Rice, K. Czepizak, S. Freeman, and M. Kroger, personal communication, November 14, 2019) in Appendix A are standard procurement process items that are necessary per various Government instructions and cannot be avoided:

- Gathering market research quotes is required by FAR Part 10 (2021), and is necessary to determine not only available sources, but also to determine commerciality of the requirement and the most advantageous acquisition strategy. As the RG know their requirements the best, they are uniquely capable of conducting the initial market research for their own requirements. Forgoing this initial market research stage would reduce the administrative burden of RG, but would ultimately extend PALT as

market research would then be conducted by Code 1071 who are less familiar with the specifics of the requirement.

- Sole Source Justifications are required by FAR Part 6, in procurement situations where, per FAR 6.302-1 (2021) “only one responsible source and no other supplies or services will satisfy agency requirements.”

These types of “Hang-Ups” are directly related to the RG lack of training in the procurement process. Most of the Defense S&T projects are small in scope, with limited funding and personnel; as such, Defense S&T projects cannot afford to provide funding for additional personnel trained in the acquisitions processes. As the acquisition processes and regulations are complex, limited resources leads to increased churn as persons who are not familiar with the acquisition process are creating and submitting requirements documents.

Additional information/misinformation issues happen when individual technical departments use administrative support personnel, and not technical support personnel, to submit requirements for RG into MMTS. While at first glance, the role of MMTS submitter may appear to be simply data entry; some critical thought is required, and mistakes are easily made when the requirements are improperly submitted in MMTS. Missing and incorrect information in MMTS can lead to the need for revisions, which extends PALT unnecessarily.

Potential solutions to this issue need to find ways for Defense S&T projects to overcome the “Hang-Ups” so that Defense S&T procurements can progress through Section 1 as quickly as possible. While it may not be possible for each Defense S&T project to fund its own personnel trained in the acquisitions processes, its undeniable that each project would benefit from acquisitions assistance; therefore, a potential solution for better requirement package submission would be the creation of a Process Cost Center, more commonly called a Service Cost Center (SCC) at NUWC DIVNPT.

The FMR Volume 11B, Chapter 13, describes Process Cost Centers as follows,

130601. Process Cost Centers. A Defense Working Capital Fund (DWCF) activity may perform certain unique operations that lend themselves to process cost center procedures. Process costing is a method of cost

accounting that first collects costs by process and then allocates the total costs of each process equally to each unit of output flowing through it during an accounting period.... Statement of Federal Financial Accounting Standards (SFFAS) 4 recognizes that process costing is appropriate when the production of goods or services involves a regular pattern of process, the output consists of homogeneous units, and all units are produced through the same process procedures. (Under Secretary of Defense Comptroller 2019, Volume 11B, Chapter 13)

The creation of an SCC for Defense S&T project requirements paperwork for Defense S&T projects would allow multiple Defense S&T projects to share the cost of personnel trained in the acquisitions processes, and would result in better requirements package submission and less rework. As most, if not all, of Defense S&T procurements are processed via GPC, and Sections 2 and 3 of the procurement path for GPC purchases are processed by Code 1071 and Code 1073 respectively, it is suggested that the SCC be created under NUWCDIVNPT Property Management Division (Code 107).

Ideally this SCC would be staffed with OPM Business and Industry Group positions; more specifically, General Business and Industry Occupational Series 1101, or Procurement Clerical and Technician Occupational Series 1106. 1101 and 1106 Series positions perform clerical and technical work to support procurements. Series 1101 work is described by the OPM website as follows:

This series covers all classes of positions the duties of which are to administer, supervise, or perform: (1) any combination of work characteristic of two or more series in this group where no one type of work is series controlling and where the combination is not specifically included in another series; or (2) other work properly classified in this group for which no other series has been provided. (Office of Personnel Management, 2018, p. 85)

Series 1106 work is described by the OPM website as follows:

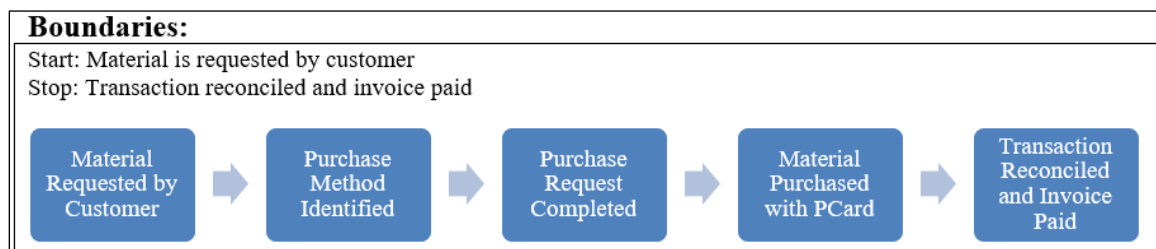
This series includes positions that involve performing or supervising clerical and technical work that supports the procurement of supplies, services, and/or construction. Procurement clerks and technicians prepare, control, and review procurement documents and reports; verify or abstract information contained in documents and reports; contact vendors to get status of orders and expedite delivery; maintain various procurement files; resolve a variety of shipment, payment, or other discrepancies; or perform other similar work in support of procurement programs and operations. (Office of Personnel Management, 2018, p. 86)

The remainder of the “Hang-Ups” identified by Defense S&T RG (M. Snyder, F. Blackman, M. Grden, D. Young, K. Kaplan, N. Mayo, M. Williams, M. Rice, K. Czepizak, S. Freeman, and M. Kroger, personal communication, November 14, 2019) in Appendix A are actually frustrations with lack of visibility into document workflow and item receipt, Sections 2 and 3 of the GPC procurement path, respectively. These “Hang-Ups” are further discussed under the respective sections later in this paper.

B. SECTION 2—MMTS RECORD CREATION TO ORDER PLACEMENT

Section 2 of the GPC procurement process is primarily transactional. A Code 1071 GPC Rapid Improvement Event (RIE) was held at NUWCDIVNPT in 2018 which included multiple meetings to identify a common Warfare Center process. As shown in Figure 4, this RIE defined the boundaries of the GPC process as “material requested by customer” to “transaction reconciled and invoice paid.”

Figure 4. Warfare Center GPC RIE Charter Boundaries



Source: GPC RIE Charter (Naval Undersea Warfare Center Division Newport, 2018)

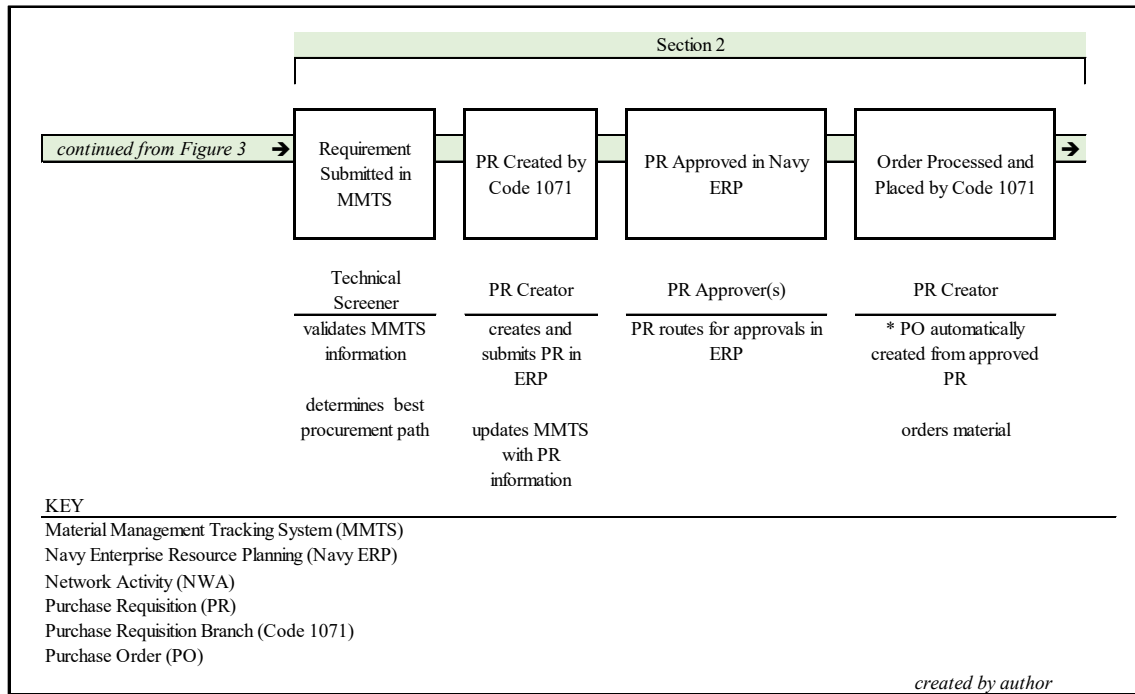
While Figure 4 shows all the tasks in the GPC process (Naval Undersea Warfare Center Division Newport, 2018) that are completed by Code 1071 personnel, only the first four steps, “Material Requested by Customer” to “Material Purchased with PCard” are considered in Section 2 of the GPC procurement process; and the last step, “Transaction Reconciled and Invoice Paid” occurs after the NSLC receipt control process in Section 3 of the GPC procurement process. This section will discuss the process of MMTS submission, the analysis of the system provide metrics, and issues encountered.

1. GPC Procurement Path Section 2 Procurement

GPC Procurement Path Section 2 is processed primarily by Code 1071. First the Procurement Screener validates that all the required information is present in MMTS, then reviews the content of the requirement and determines the appropriate procurement path. As discussed in Chapter II while multiple procurement types exist, procurements generally take one of two paths, this JAP focuses on GPC procurement actions that are fully processed by Code 107. If the buy is below the PCard threshold (\$10,000 for material and \$2,500 for services), and no terms and conditions apply, the requirement will be processed using the GPC procurement path. The Procurement Screener then routes the action in MMTS to the Purchase Requisition (PR) Creator who creates the PR in Navy ERP and submits it to workflow, and updates MMTS with the PR information. In Navy ERP workflow, PR Approvers review the documents uploaded to the Navy ERP Document Management System (DMS) and approve or reject the PR. Under the GPC procurement process, the last approval in ERP is the PR Creator, that way the PR Creator gets a notification in their Navy ERP inbox stating that the PR is ready for final approval. Once fully approved, Navy ERP will automatically create the PO, and the PR Creator orders the material from the vendor.

Figure 5 is provided to further clarify the detail of this Section of the GPC Procurement Path. Figure 5 is a continuation of Figure 3 (in Chapter V), and provides additional detail for GPC Procurement Path Section 2. Figure 5 is an original infographic developed by the author from conversations with a GPC SME and Financial Analysts.

Figure 5. GPC Procurement Path Section 2 Detail



Adapted from conversations with Code 15 GPC Specialist (J. Powers, personal communication, February 9, 2021), Code 15 Financial Analyst (A. Tetreault, personal communication, February 9, 2021), Code 45 Business Operations Lead (C. Green, personal communication, March 8, 2021) and Code 10 General Equipment Manager (J. Groccia, personal communication, September 11, 2021).

Section 2 of the GPC procurement process begins when RG submit a requirement in MMTS for processing; then Code 1071 employee creates the PR in Navy ERP and submits that PR to Navy ERP workflow. Once the required Approving Officials have approved in Navy ERP, Navy ERP will automatically create the PO, and the PR Creator can place the order with the vendor.

2. MMTS Data

MMTS system provided metrics returned a total of 19,404 requirements that were submitted in MMTS during FY19; 1 October 2018 to 30 September 2019. For each line item, the MMTS system provided metrics provides the following data:

- Order #
- Line Item #
- Priority
- Manufacturer Part #
- Description
- Quantity
- Unit Cost
- PR Creator
- PR Creator Approval Date
- Requestor

- | | | |
|--------------------------|-------------------------|-------------------------|
| • Number of Returns | • Finance | • Submitter |
| • Submit Date | • Finance Approval Date | • NWA |
| • Duration | • Fund Controller | • Purchase Request # |
| • Ordered Date | • Fund Controller | • Purchase Obligation # |
| • Expected Delivery Date | • Approval Date | • MILSDOC # |
| • Department | • Technical Screener | • Acquisition Method |
| • Project | • Technical Screener | • Total Line Item Cost |
| • UMM # | • Approval Date | • Surcharge |
| | | • Grand Total |

Due to the Source Selection Sensitive nature of the MMTS data, it is excluded from this project. Tables 2 through 5 are original infographics developed by the author from Source Selection Sensitive MMTS data, that provides a breakdown of the data provided by the MMTS system provided metrics in a way that is acceptable to public release. As previously discussed under Chapter II, MMTS data is sorted by acquisition method which can be further separated into two groups Procurement Actions and Administrative Actions, tables 2 through 5 provide a breakdown of the MMTS data for the Procurement Actions types (Contract, DLA/ MILLSBILLS, MILSTRIP, and P-Card).

Table 2 shows the total number of records per acquisition method, and the difference between the average number of days from MMTS submission to PR Creation for all Procurement Action types. Records falling under the “P-Card” acquisition method are less than one (1) day higher than the average number of days, which is not statistically significant. The difference of less than four (4) days between the average of “Contract” acquisition method and the “P-Card” acquisition method is representative of the quote process. While “Contract” records are submitted into Navy ERP upon receipt of the record in MMTS, quotes are gathered for “P-Card” records prior to Navy ERP submission to prevent the need for an amended PR later; this process is further discussed in Chapter V.

Table 2. MMTS Records for Procurement Actions, NUWCDIVNPT FY19

Acquisition Method	Number of Records	Submission to PR Creation (days)
Contract	3149	7.4
DLA/MILLSBILLS	97	9.6
MILSTRIP	6204	14.7
P-Card	9051	11.0
Total Records & Total Average	18,501	10.68

Adapted from MMTS data pulled 12 December 2019

Table 3 shows that of the 9,051 “P-Card” records submitted in MMTS during FY19, 627 records were submitted by Defense S&T Projects, and 8,424 records were submitted by Non-Defense S&T Projects; and that the difference between the average number of days from MMTS submission to PR creation for Defense S&T P-Card procurements and non-Defense S&T P-Card procurements is less than one (1) day, which is not statistically significant. Note that different NUWCDIVNPT Technical Departments use MMTS in different ways, and there are currently no rules for how Technical Departments use the “Project” field in MMTS. As such, some Technical Departments enter the Project Name while others enter the Branch or Department in the “Project” field in MMTS, in this way the author can confirm that while the 627 records were all submitted by Defense S&T projects, there are likely additional Defense S&T project records hidden in the Non-Defense S&T records.

Table 3. MMTS Records Using the “P-CARD” Acquisition Method, NUWCDIVNPT FY19

Acquisition Method: Project Type	P-Card Number of Records	Submission to PR Creation (days)
Defense S&T Projects	627	11.1
Non-Defense S&T Projects	8424	11.0
Total Records & Total Average	9051	11.0

Adapted from MMTS data pulled 12 December 2019

Table 4 shows the submission to PR creation timelines for the remaining 9,450 Other Than “P-Card” records submitted in MMTS during FY19. As compared to the “P-

Card” average timeline of 11.0 days, the average for Other Than “P-Card” records is 10.6 days; a difference of less than one (1) day, which is not significant.

Table 4. MMTS Records Using Other Than the “P-CARD” Acquisition Method, NUWCDIVNPT FY19

Acquisition Method	Number of Records	Submission to PR Creation (days)
Contract	3149	7.4
DLA/MILLSBILLS	97	9.6
MILSTRIP	6204	14.7
Total Records & Total Average	9,450	10.6

Adapted from MMTS data pulled 12 December 2019

The data from MMTS also includes a field for the “Order Date” for each MMTS submission, however, this field is optional for Code 1071 to complete and the data is not provided for all submissions. Of the total 9,051 “P-Card” records that were submitted in MMTS, 5,363 submissions include an Order Date, which represents 59% of the data. Table 5 shows that the difference between the average number of days from MMTS submission to Order Placement for Defense S&T P-Card procurements and non-Defense S&T P-Card procurements is less than three (3) days, which is not significant given that the data in MMTS only represents 59% of the P-Card records.

Table 5. MMTS Records Using the “P-CARD” Acquisition Method that Include an Order Date, NUWCDIVNPT FY19

Acquisition Method:	P-Card	
Project Type	Number of Records Including Ordered Date	Submission to Ordered Date (days)
Defense S&T Projects	401	20.1
Non-Defense S&T Projects	4960	22.8
Total Records & Total Average	5363	22.6

Adapted from MMTS data pulled 12 December 2019

As shown in Table 5, the average process times in MMTS for Defense S&T projects are not significantly different than those of non-Defense S&T projects. As MMTS

processing is largely transactional, there may not be much room for improvement within this stage, and no potential solutions are offered.

3. Issue 2—MMTS Data Limitations

System provided metrics are only reliable if the persons entering data do so by using a consistent set of rules. While MMTS requires that a RG select the project associated with each entry and enter it in the “Project” field in MMTS, each NUWCDIVNPT department has different requirements for this field, some more detailed than others. As an example, one department requires project identification at a project level (enter project name), while another department requires project identification at a branch or division level (enter NUWCDIVNPT code that the RG works for). This inconsistency makes it difficult, but not impossible to evaluate the system provided metrics in a reliable way.

As an example, of the two-hundred-fourteen (214) projects which submitted requirements in MMTS during FY19, twelve (12) projects were identified by TPOC as Defense S&T projects. This information is helpful, as the data can be sorted to compare data for those twelve (12) Defense S&T projects against the averages for all the data. However, as some departments identify projects at the branch or division level and not the project level, it is safe to say that this data can be misleading in multiple ways:

First, as a single branch or division can run multiple projects, it is safe to say that there were more than two-hundred-fourteen (214) projects in process at NUWCDIVNPT in FY19. Therefore, it is not accurate to state that 5.6% (12 divided by 214) of the projects in process at NUWCDIVNPT in FY19 were Defense S&T.

Second, it is safe to say that more than twelve (12) Defense S&T existed at NUWCDIVNPT during FY19. Some projects do not require the purchase of supplies and services; some projects are not visible in the MMTS data due to the aforementioned MMTS Project identification problem; and some Defense S&T projects use other contract vehicles to purchase supplies and services. In this third instance, supplies and services could be purchased under another existing contract to support Defense S&T projects. Those purchases would show up in the MMTS data under the Non-GPC Acquisition Method of

“Contract” which, among other types of actions, includes incremental funding to existing contracts and task orders.

Thirdly, Code 1071 does not strictly enforce data entry in all fields in MMTS, so some records are missing information that could be useful in analyzing the data. As an example, as shown in Tables 4 and 5, of the 9,450 records inputted in MMTS for FY19, only 5,363 records included an Ordered Date, which represents less than 57% of the data. A comparison of the data in Tables 3 and 5 show us that of the 627 PCard requirements submitted by Defense S&T Projects, only 401 (less than 64%) included the Ordered Date, and of the 8,424 Non-Defense S&T Projects PCard records, only 4,960 (less than 59%) included the Ordered Date. Needless to say, the information in Tables 2 through 5 may be misleading.

To make MMTS metrics more useable in the future, it is recommended to standardize data entry requirements across the board: RD should be required to input their requirements at the project level, and Code 1071 should be required to enter all data points for all requirements. It should also be mentioned that MMTS is a system developed by AIMTC at NUWCDIVNPT for NUWCDIVNPT use, and as such, is customizable. If it would be helpful to have additional, or different, data points captured to more accurately track PALT, it would be possible.

4. Issue 3—Lack of Visibility

Many of the common problem “Hang-Ups” voiced by Defense S&T RG (M. Snyder, F. Blackman, M. Grden, D. Young, K. Kaplan, N. Mayo, M. Williams, M. Rice, K. Czepizak, S. Freeman, and M. Kroger, personal communication, November 14, 2019) in the 14 November 2019 meeting (notes included as Appendix A) were focused on the lack of feedback and visibility in the procurement process, document workflow and item receipt. Exacerbated by the lack of process knowledge discussed in Chapter V, the lack of feed-back when their requirement is rejected or hits major milestones is apparently one the main sources of frustration for RG.

Milestones identified by Defense S&T RG that could be reviewed to determine if notification is possible are:

- MMTS Rejection by Control Points
- MMTS Rejection by Code 1071 Procurement Screeners
- MMTS Rejection by Code 1071 PR Creators
- PR Rejection by Control Points
- Order Placement by Code 1071 (notification of order placement by Code 02 happens via award distribution)

The Control Point process was created by NUWCDIVNPT Corporate Operations (Code 10) as a way to verify that certain types of restricted or controlled purchases were being reviewed by the appropriate TPOC. Purchases that require review by control points, include items such as cameras, certain types of technology, and hazardous material. As of April 2021, NUWCDIVNPT currently has thirty-six (36) separate Control Points, each of which has a primary and one or two backup owners (Naval Undersea Warfare Center Division Newport Contracts Department, 2021b). The Control Point TPOC work within the NUWCDIVNPT Technical Departments, in the respective branches that have cognizance over their particular Control Point. As the Control Point process is not centralized, requiring Control Points to provide feedback outside the current process would be difficult to enforce. However, the PR Creation process is centralized under Code 1071, so there is room for improvement there.

Each MMTS Record includes fields for “Requestor” and “Submitter,” so it would be possible to request that Code 1071 Procurement Screeners and Code 1071 PR Creators send emails to the listed TPOC in the event of the above listed milestones. Alternatively, as MMTS is customizable by AIMTC, MMTS should be modified so it sends emails to the RG and End User when the PR Creator enters a Ordered Date and Receipt Date. Note this second solution would only be effective if the solution to Issue 2 (standardized MMTS data entry) is implemented.

5. Navy ERP System Inconveniences

One “Hang-Up,” identified by RG (M. Snyder, F. Blackman, M. Grden, D. Young, K. Kaplan, N. Mayo, M. Williams, M. Rice, K. Czepizak, S. Freeman, and M. Kroger, personal communication, November 14, 2019), includes concerns about Navy ERP functionality and approvals, notes included as Appendix A. After PRs are created by Code 1071, they are submitted to workflow where they are routed to multiple signatories, PR Approvers, including the Approving Official, the local comptroller POC from Code 01, the Sponsoring Agency Approving Official and/or comptroller, and NUWCDIVNPT Control Points. More information about PR Approvers can be found in Chapter II. The “Hang-Up” focuses specifically on workflow routing, in that Navy ERP doesn’t notify users via email when either a PR requires approval or when a PR is rejected by an approving official. Navy ERP also doesn’t allow for Approving Official alternatives if a specific person is unavailable, which can add to the length of Navy ERP workflow. In addition, when a PR is rejected, it needs to be revised and resubmitted to all Approving Officials, further lengthening the PALT of a requirement. However, while Navy ERP functionality can be inconvenient, there is no workaround to this issue.

C. SECTION 3—RECEIPT CONTROL

Information about the receipt control process was gathered through a telephone conference with the former Code 15 RD Property Lead and Code 15 Technical Department Acquisition Advocate (TDAA) (M. Snyder and P. Atwood, personal communication, April 28, 2020), a review of Receipt Control written processes, and a walkthrough of BL47 with NSLC personnel (A. Jordan and S. McLane, personal communication, 09 March 2021). The authors notes from meeting with Code 15 Property Lead and TDAA (M. Snyder and P. Atwood, personal communication, April 28, 2020) are included as Appendix B; and from the BL47 walkthrough (A. Jordan and S. McLane, personal communication, 09 March 2021) are included as Appendix C.

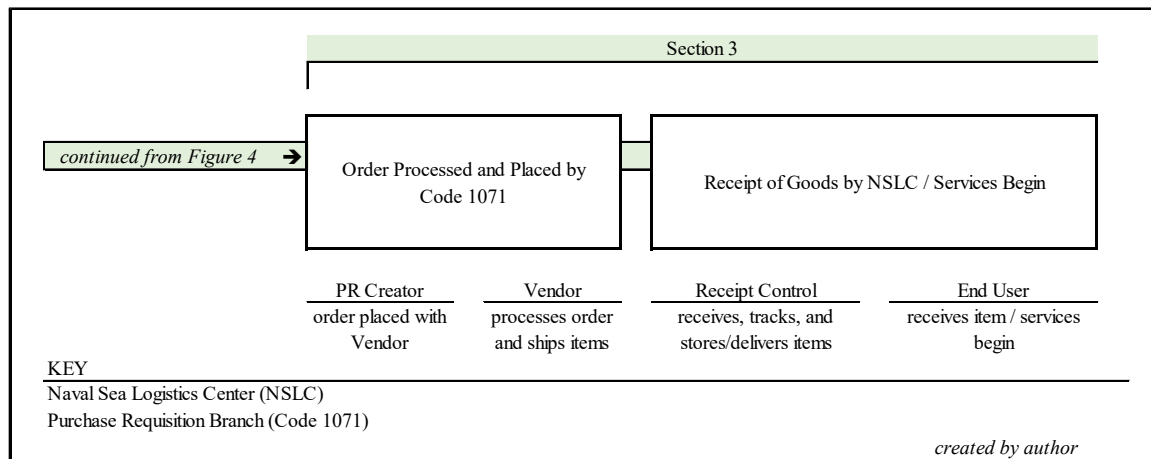
1. GPC Procurement Path Section 3

GPC Procurement Path Section 3 is the last section of the procurement process and includes three (3) stakeholders. Section 3 begins when the order is placed by Code 1071,

then orders are received and processed by Receipt Control, and finally the RD End User receives the item(s).

Figure 6 is a continuation of Figure 5 (in Chapter V), and provides additional detail for GPC Procurement Path Section 3. Figure 6 is an original infographic developed by the author from conversations with a GPC SME and Financial Analysts.

Figure 6. GPC Procurement Path Section 3 Detail



Adapted from conversations with Code 15 GPC Specialist (J. Powers, personal communication, February 9, 2021), Code 15 Financial Analyst (A. Tetreault, personal communication, February 9, 2021), Code 45 Business Operations Lead (C. Green, personal communication, March 8, 2021) and Code 10 General Equipment Manager (J. Groccia, personal communication, September 11, 2021).

Receipt Control includes receiving and processing of deliveries prior to sending items to the End User. This step begins when items are delivered by truck to BL47. Upon delivery, items are checked in and matched to information in Navy ERP; Navy ERP is updated to mark the items as received; and the item is either delivered or inducted, depending on the Account Assignment Category (AAC) that was assigned to the procurement. The induction process is further discussed under Issue 7, found under Chapter V, Paragraph C6.

The most time consuming issues identified by stakeholders in this step are base access for delivery vehicles and personnel, frustrated material, and Navy ERP System

Inconveniences other than the approval process; issues 4, 5, and 6, respectively, found under Chapter V, Paragraph C3 through C5.

Throughout the GPC Procurement Path, material procurements are tracked by RD Property Leads, who track physical material through MMTS submission through receipt by the End User and help to coordinate purchases from within each RD (M. Snyder and P. Atwood, personal communication, April 28, 2020). Discussions with RD Property Leads, (M. Snyder and P. Atwood, personal communication, April 28, 2020) mainly focused on BL47 Receipt Control processes and identified many of the same issues that the BL47 walkthrough identified. One issue identified by the RD Property Lead (M. Snyder and P. Atwood, personal communication, April 28, 2020) was the difference in how Operating Material and Supplies (OM&S) material and GE were handled, and how assigning the incorrect AAC could extend PALT, this issue was also mentioned in conversations with Financial Analysts (A. Tetreault, personal communication, February 9, 2021), and is further discussed as Issue 7, found under Chapter V, Paragraph C6.

2. Receipt Control Standard Operating Procedures (SOP)

Currently, two (2) SOPs exist that define the Receipt Control process: the first is the NAVSEA Warehouse Process Guide (Naval Sea Systems Command, 2015), which discusses NAVSEA warehouse management processes, including: material receipt, movement, storage, issuance, and transfer; and reporting and metrics requirements; and the second SOP is the Property (Operating Material and Supplies (OM&S) and General Equipment (GE)) Procurement Process Guide (Naval Sea Logistics Center, 2017) which was developed by NSLC for use in support of Warfare Center Warehouse Operations. These SOP detail the current processes and procedures governing receipt control for NUWCDIVNPT, however they do not tell us what issues are involved in the process. The remainder of this section will discuss the issues identified by NSLC Naval Station Newport, RI receipt control SME (A. Jordan and S. McLane, personal communication, March 9, 2021).

3. Issue 4—Base Access

The first issue identified by NSLC personnel (A. Jordan and S. McLane, personal communication, March 9, 2021) that adds to PALT was getting delivery drivers base access. As BL47 is within the fence line of Naval Station Newport, all delivery drivers are required to have passes and permission to access the base. In the past, when a delivery driver had issues gaining base access, due to improperly filed paperwork, NSLC personnel were able to meet the truck at the gate and escort them on base. However, due to the COVID-19 and the change in Force Health Protection Guidance, NSLC personnel are no longer allowed to ride along with the delivery vehicles. As such, if a delivery driver currently has issues with outdated passes or incorrect paperwork, the delivery must be rescheduled until the paperwork has been updated, which adds time to PALT. Potential solutions for this issue, include updated Force Health Protection Guidance which allows NSLC personnel to ride with delivery vehicles, or updated guidance at NAVSTA Newport, which allows NSLC personnel to follow a delivery truck in their own vehicle instead of riding along in the same vehicle.

4. Issue 5—Frustrated Material

After items are checked-in after delivery, those items are matched to information in Navy ERP. Matching can be difficult based on the documentation provided with each package.

For purchases made by Code 1071, the Purchase Requisition Purchase Cardholder Process (Naval Undersea Warfare Center Division Newport, 2019c), Chapter III, requires that cardholders provide vendors with, “proper shipping address to include associated PO number within the address or visible packing list.”

For contracts and orders placed by Code 02, contract documentation requires that every item delivered be clearly marked with “Mark For” information to allow this matching process to go smoothly. As provided in the NUWCDIVNPT Acquisition Guide (Naval Undersea Warfare Center Division Newport, 2020), under section 15, the standard “Mark For” language is listed below:

a) The Contract shall include the following “Mark For” information clearly marked on all packages (or items themselves if they are not packaged) delivered under this contract/order:

Mark For:

Receiving Officer, Location

Street Address

Town, State, ZIP

Location and Name of the Individual to whom the material/should be delivered.

Contract #/Order #:

If this information is missing from a delivered item, and other identifying information is not present, such as a PR or order number, matching the delivered item with the order in Navy ERP becomes more difficult. If an item cannot be linked to PR or PO after five (5) days the package is labeled as frustrated material.

Frustrated material represents the largest problem encountered by NSLC personnel in the receipt control process (A. Jordan and S. McLane, personal communication, March 9, 2021). Frustrated material requires research to resolve, and is frequently caused by missing, incomplete, or incorrect information on packaging.

Researching the correct PR/ PO could include:

- Searching PR Status Report (on Newportal) for vendor part number. However, the PR Status Report file is not updated daily, so sometimes information is missing initially, and NSLC personnel need to check back in a few days.
- Contacting end user as listed in Mark For information to ask for the PR/ PO number
- If the order was processed using Government Services Administration (GSA), and a GSA contract number is provided, NSLC personnel can call GSA to ask for the PR/ PO number.

If no identifying information is provided to assist with research, items sit until a TPOC calls BL47 to inquire about the delivery. Needless to say, if a delivery becomes classified as frustrated material it can add considerable time to PALT.

Proposing potential solutions for this issue are difficult as the processes by both Code 1071 and Code 02 both currently instruct vendors to include the appropriate information, however there are no further controls in place to assure vendor compliance. As such this issue is listed as a topic recommended for further research in Chapter VI.

5. Issue 6—Navy ERP System Inconveniences

Navy ERP includes all the modules of Systemanalyse Programmentwicklung (SAP) ERP that the Navy has opted to include, however additional SAP ERP modules exist that could benefit the receipt control process, to include SAP Extended Warehouse Management Module, (SAP ERP 2021), which would allow NSLC personnel to automate some of the processes that are currently completed inefficiently.

Prior to 1 March 2021, BL47 personnel used to check items in by hand, writing each entry in a notebook, which was a time consuming process, not only because of the administrative labor involved, but also because not every person's handwriting is equally legible. However, as of 1 March 2021, NSLC personnel use WI-FI enabled tablets and a hand scanner to scan in the barcodes on each package and list then in an excel spreadsheet. Going digital and reducing the administrative burden of this step of the check-in process has helped BL47 reduce the overall check-in time for every package delivered. However this process could be even more efficient, as matching the excel spreadsheet to data in ERP, and other logistics based actions, still need to be completed manually.

NSLC personnel suggested (A. Jordan and S. McLane, personal communication, March 9, 2021) the addition of the SAP Extended Warehouse Management Module to the Navy ERP suite of modules. This module has the ability to automate certain processes and digitize information which currently still require manual efforts; including the ability to analyze a workspace and suggest where to store items to optimize space, which would really benefit NSLC personnel, reducing the touch time of each package. Reducing the current administrative burden could reduce PALT for all purchases and make the BL47 warehouse more efficient. That being said, Navy ERP is not a system that is owned or operated by NUWCDIVNPT, as such, the author does not have access to the current SOP

documentation, and is therefore unable to determine if the above suggested solution is viable. This issue is listed as a topic recommended for further research in Chapter VI.

6. Issue 7—Material Transfer Request (MTR) Form

As stated by the “Fence-Line To Fence-Line Inventory (F2FI) Standard Operating Procedure”:

The Warfare Centers have been working towards full compliance with all property management directives since 2011, with a goal of setting a material accountability baseline across the Navy, removing excess inventory on hand, improving accuracy of accountable property records, and ensuring all material is recorded in an approved Accountable Property System of Record (APSR)... The end goal of the F2FI effort is to ensure that all OM&S is properly accounted for in Navy ERP and managed by NSLC. The only exception will be pre-expended bin material and OM&S work in progress. (Naval Undersea Warfare Center Division Newport, 2019a)

Part of ensuring F2FI compliance is the accurate assignment of Account Assignment Category (AAC) for each supply procurement made (Naval Undersea Warfare Center Division Newport, 2019a). The Property (Operating Material and Supplies (OM&S) and General Equipment (GE)) Procurement Process Guide (Naval Sea Logistics Center, 2017) classifies property into three (3) basic categories based on the intended use of the item: OM&S, Plant, Property and Equipment (PP&E), (now called General Equipment (GE)), and consumables.

- OM&S is comprised of tangible property that are to be consumed or expended during the performance of a project, as component parts of a higher assembly, or items that lose their individual identity through incorporation into an end-item that is typically delivered to the Fleet (Naval Sea Logistics Center, 2017, p. 17). This type of material will be assigned an AAC of *Q*.
- GE (previously called PP&E) consists of “items that are used, but not consumed, to produce goods and/or services to support the DON mission.” (Naval Sea Logistics Center, 2017, p. 3). The FAR calls GE “Equipment,” defined under FAR clause 52.245-1 as, “tangible property that is functionally complete for its intended purpose, durable, and non-expendable. Equipment is

not intended for sale, and does not ordinarily lose its identity or become a component part of another article when put into use.” (FAR 52.245-1, 2017). This type of material will be assigned an AAC of *1*, *2*, *3*, *4*, or *P*.

- Consumables to be used in every day operations, such as office supply consumables, such as paper, pens, and toner. This type of material will be assigned an AAC of *N* or *P*.

While the categorization of material as OM&S or GE affects how the material is handled during the receipt control process, the decision of which category a purchase falls under is made by the procurement screener, based on information included in the MMTS request, during Section 2 of the GPC procurement process. Based on the above definitions, most if not all, GPC purchases for Defense S&T projects should be considered OM&S and assigned an AAC of *Q*, however this assignment results in extended PALT and additional project costs, during the Receipt Control process under Section 3 of the GPC Procurement Process, in the form of material induction. Material induction includes performing a “kick-and-count” of all items, and shelving the material in a warehouse until it is requested by the End User.

One solution suggested to resolve this issue would be for NUWCDIVNPT to grant Defense S&T projects with some sort of AAC waiver so they can be assigned to another category, however there are multiple problems with this solution, as the F2FI initiative is Warfare Center wide, and were implemented based on recommendations from NAVSEA. The Navy Material Accountability Campaign (NMAC) Playbook (Office of the Chief of Naval Operations [CNO] 2019) also discusses in detail as to why this solution is a poor one, suggesting that NMAC is vital to military readiness as, “Decades of lax materiel management practices and a culture of lenient standards have left the Navy awash with hidden “shadow inventories,” untracked piles of property, abandoned materiel, and inadequately utilized warehouse spaces” (CNO 2019).

A better solution would be to implement changes to MMTS to allow Defense S&T projects to submit a pre-populated MTR with their request for PR creation. While this solution would not allow the material to avoid the required “kick-and-count” process, it

would allow purchases to Defense S&T projects to avoid shelving and storage costs, and would also reduce PALT by notifying NSLC personnel that these particular OM&S material should be delivered to the End User right away. Note that this solution would only be possible if the solution to Issue 2 is also implemented, requiring all department to submit their requirements at the project level in MMTS.

7. Issue 8—Delivery of Heavy Freight

Once NSLC receives a MTR, an item is brought via van or truck from BL47 on Naval Station Newport, to the End User on NUWCDIVNPT. Heavy freight items, categorized as items that require a forklift to move, and/ or packages fifty (50) pounds or more, are handled by NAVFAC personnel. As the delivery of heavy freight requires the End User to be present to receive it, and not all buildings on NUWCDIVNPT have loading docks for the receipt of large items, the coordination of delivery of heavy freight items can sometimes extend PALT up to two (2) weeks. While the heavy freight items themselves are to be delivered to NUWCDIVNPT, the delivery of heavy freight is a process coordinated by NSLC and NAVFAC personnel, as such, the author does not have access to the current heavy freight SOP documentation, and is therefore unable to posit a solution for this problem. This issue is listed as a topic recommended for further research in Chapter VI.

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VI. SUMMARY

This section summarizes the conclusions and recommendations based on the research and analysis in Chapter V.

A. RESEARCH LIMITATIONS

The primary research limitation of this paper is the availability, amount, and quality of data. As discussed previously in this paper, there were not only difficulties analyzing the data pulled from MMTS; the data itself could be interpreted in multiple misleading ways due to the incompleteness of the entries and non-standardized instructions for data entry. Furthermore, the NUWCDIVNPT Standard Procurement Process (SPP) itself is very complex, including many stakeholders and decision points, and finding the SOP for each step was not easy. While the NUWCDIVNPT website includes a section for Notices and Instructions, the author was unable to find many of the process documentation there, instead relying on SME stakeholders to provide the most recent version of the SOP that governs their particular role. Needless to say, it is difficult to be an informed authority on any subject when the data is misleading, missing, or out of reach.

Moreover, over the course of researching and writing this project report, as the author met with key stakeholders to discuss the individual's role as a part of the SPP, it became evident that individual stakeholders had misguided notions or impressions about the other steps in the process, even going as far as to complain about "unnecessary" requirements that other SME asked for, that were in fact SOP requirements. While it would be an unreasonably complicated task to train all NUWCDIVNPT personnel on the entire SPP, it would not be as difficult to have a few people who fully understand the entire SPP who could answer questions.

B. RECOMMENDATIONS FOR NUWCDIVNPT PROCESS IMPROVEMENT

After holding discussions with Defense S&T SME (M. Snyder, F. Blackman, M. Grden, D. Young, K. Kaplan, N. Mayo, M. Williams, M. Rice, K. Czepizak, S. Freeman, and M. Kroger, personal communication, November 14, 2019) and GPC Procurement

Process SME, eight (8) issues were identified, which could be improved on to decrease GPC Procurement Process PALT for Defense S&T project purchases. Of these eight (8) issues, a total of three (3) solutions and three (3) recommendations are presented, as some solutions are the answer to multiple issues, and some solutions are presented as opportunities for further research.

1. Solution 1—Defense S&T Service Cost Center

Issue 1, as discussed in Chapter V, states that while it may not be possible for each Defense S&T project to fund its own personnel trained in the acquisitions processes, its undeniable that each project would benefit from acquisitions assistance, therefore, a potential solution for better requirement package submission would be the creation of a Process Cost Center, more commonly called a SCC at NUWCDIVNPT. The creation of an SCC for Defense S&T project requirements paperwork for Defense S&T projects would allow multiple Defense S&T projects to share the cost of personnel trained in the acquisitions processes, and would result in better requirements package submission and less rework. As most, if not all, of Defense S&T procurements are processed via GPC, and Sections 2 and 3 of the procurement path for GPC purchases are processed by Code 1071 and Code 1073 respectively, it is suggested that the SCC be created under Code 107. Ideally this SCC would be staffed with OPM Business and Industry Group positions; more specifically, General Business and Industry Occupational Series 1101, or Procurement Clerical and Technician Occupational Series 1106. The creation of an SCC would reduce PALT for Defense S&T projects by reducing the acquisition process training time for Defense S&T project personnel, and by reducing the amount of times a requirements would require revision. As Defense S&T projects are small in nature, in both funding and number of personnel, it is suggested that this SCC be funded using Technical Department overhead funding and not Defense S&T project funding.

2. Solution 2—Standardization of Data Input

Issue 2, as discussed in Chapter V, states that data is only as valuable as it is accurate. While it is true that standards for data input across the board could only be a positive change, this research found two specific areas which would greatly benefit from

standardization. The first is to require RG to enter MMTS requirements at the project level, and the second is to require Code 1071 MMTS users to enter dates for all data points. While this solution, by itself, may not directly reduce PALT, the standardization of data input in MMTS would not only allow NUWCDIVNPT to better determine areas for further research, it would allow the SPP to be tailored to better meet the needs of individual projects, and enable NUWCDIVNPT to implement Solution 3.

3. Solution 3—MMTS Updates

Issue 3 and Issue 7, as discussed in Chapter V, relate to RG and End User complaints about the lack of visibility into what stage their requirement is currently in, and a lack of communication by later stakeholders. The suggested solution for these issues is to update MMTS to automatically provide status information and documentation to the stakeholders that need it, however this solution can only be implemented effectively if Solution 2 is also implemented. The suggested updates to MMTS are as follows: first, MMTS should automatically send an email to the “Requestor” and “Submitter” POC, when a date is entered by Code 1071 for “PR Created,” “Order Placed,” and “Order Received”; secondly, MMTS should allow procurements purchased under Defense S&T projects to submit a MTR with their initial procurement package so that NSLC personnel are notified to deliver material right after they perform kick-and-count. These updates will cut down on RG and End User frustration, the administrative burden to tracking down the status/ providing manual status via email, and will shorten PALT for Defense S&T projects under Section 3 of the GPC Procurement Process by reducing churn for NSLC personnel during the receipt control process.

C. RECOMMENDATIONS FOR FURTHER RESEARCH

The following recommendations would require additional research as they involve processes and systems that are not run or owned by NUWCDIVNPT.

1. Recommendation 1—BL47 Standard Operating Procedure (SOP) Updates

Issues 4 and 8, as discussed in Chapter V, relate to issues posited by NSLC staff related to receipt control. These issues include increased problems with vendors gaining base access to deliver packages due to COVID restrictions, and the coordination of the delivery of heavy freight items with NAVFAC personnel and End Users. Proposing solutions to these issues would require updates to BL47 SOP, which are not owned by NUWCDIVNPT. As such, the author could not fully research the possibility of or implications involved in making these updates.

2. Recommendation 2—Common Practices for Marking of Packages

Issue 5, as discussed in Chapter V, relates that NSLC personnel currently have significant issues with frustrated material, which is material that is not marked properly and requires additional research to determine which purchase a particular package relates to. Unfortunately, the events that lead to the creation of frustrated material are out of the Government's control, as the Government currently requires that vendors mark packages to include identifying data. However, as this is a significant source of frustration for NSLC personnel, and can significantly extend PALT for supply purchases, this topic warrants additional research.

3. Recommendation 3—Navy ERP Modules

Under issue 6, as discussed in Chapter V, NSLC personnel currently experience inefficiencies in the amount of touch time for each package delivered and the logistics of the temporary storage of every moving inventory. To reduce the administrative burden , NSLC personnel suggested purchasing additional SAP modules to add to the current Navy ERP suite of modules. The SAP Extended Warehouse Management Module. However, Navy ERP is not a system that is owned or operated by NUWCDIVNPT, as such, the author does not have access to the current SOP documentation, and is therefore unable to determine if the above suggested solution is viable.

D. CONCLUSION

After thorough research and review of NUWCDIVNPT procurement processes for GPC purchases, evidence strongly suggests that the current SPP can be revised to accommodate the unique needs of RDT&E Defense S&T project procurements and reduce PALT for the same. However, change can only happen if those in senior leadership positions are committed to providing resources and support for positive change. Therefore, to continue to allow NUWCDIVNPT to move at the speed of relevance, it is recommended that NUWCDIVNPT senior leadership invest in the creation of a SCC and updates to the MMTS program; and enforce standardization of data entry in MMTS.

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APPENDIX A. MEETING NOTES, 14 NOVEMBER 2019

ATTENDEES – C15 S&T program POC

WHAT DO S&T PROGRAMS BUY?

Procurement Types

- (1) Supplies
 - a. Defined – this specifically (COTS)
 - b. Undefined – Build to Specification
 - c. Custom – Build to Print

- (2) Services

Methods

- (1) MicroPurchase < \$3,500 for supplies
- (2) Bankcard under 10K
- (3) SAP < \$750K (inside US)
- (4) SAP < \$1.5M (outside US)

WHAT ARE THE COMMON PROBLEMS THAT S&T REQUIREMENT GENERATORS ENCOUNTER?

The Hang-Ups

- Hard to get quotes - Quotes and Market Research
 - Could we eliminate the pre submission quote process?
- Requirements Definition Process
- Understanding of the contracts process
- Issues with sole source rework
- Excessive procedures and time to complete control point checks
- Where are bottlenecks in process?
- No visibility into C1071 procedures – can C1071 notify when the order been placed?
- ERP Approval functionality issues & Approval training disconnects
- BL47 not sending pings when items are received – have to check C10 website daily
- Dealing with receipt control issues - Repairs, Warranties, Damaged items
- Strategy Planning

(M. Snyder, F. Blackman, M. Grden, D. Young, K. Kaplan, N. Mayo, M. Williams, M. Rice, K. Czepizak, S. Freeman, and M. Kroger, personal communication, November 14, 2019)

WHO IS INVOLVED IN THE PROCESS? Every interface is a potential for miscommunication – of all the persons involved, the only one who has interest in speed is the intended recipient of the item

Requirements Generator

Code 15 MMTS person - Can Requirements Generator take training to enter into MMTS?

Code 15 Financial Analysts – if initially forwarded to wrong FA, the FA will reject instead of forwarding to correct FA

C1071 Screener & PR Creator

ERP Approvers

Order Placement POC in either C1071 or C02

Control Points – IT, Calibration lab, HAZMAT, etc. – control points tend to respond in a ‘police’ mindset instead of a ‘support’ mindset and slow down the process

Contractor / Vendor

- Code 1071 should include Tech POC in their purchase requests so RG is involved in shipping details and other requests

BL47 Receiving / Inventory (Q/N) / Delivery/ Heavy Freight

- B47 does not allow RG to pick up anymore
- Repackaging is not consistent with original packaging

WHERE ARE THE BOTTLENECKS?

Priority Level – some procurements are labeled urgent in MMTS. Can S&T project requirements be marked urgent?

Supply is labeled OM&S and gets sent to warehouse inventory - Can S&T get around inventory requirements?

C01 ERP Rejections - Comptroller rejects because they believe items do not fall under RDTE, but technical department is responsible for that determination

00L Review – Legal department approvals take a considerable amount of time

Sandbox issues between departments

WHAT MAKES S&T SPECIAL?

Scale for S&T is smaller – less money – less people – less time to accomplish

S&T programs don’t know what they need till they start working. They also get their funding per year, and usually cannot purchase the item next year – short term projects. If it isn’t done this year, it gets done next year.

NRL has a specific/separate process for purchasing under S&T/RDTE programs – it has fewer interfaces than other types of purchases

APPENDIX B. MEETING NOTES, 28 APRIL 2020

Procurement Methods – PCard, MILSTRIP, C02 contracting, etc. – separate and

Product / Material / Hardware

OMNS– all material going on a boat or ship - components, subassemblies to manufacture or repair major systems –

General Equipment – items used to make other things – test equipment, laptops, tools

After the order gets placed – what happens?

Two guides exist for OMNS processes - one at NAVSEA level & one at NUWCDIVNPT level – access via C10 NewPortal – they provide background information for OMNS material handling

OMNS material must go through B47 – that is where the goods receipt process begins

When the material comes in – B47 personnel link the physical material with the ERP PO data

Physical Receipt (applies to both OMNS & General Equipment) – B47 unloads boxes from pallet, reviews invoices, inspect box and items in box to confirm that all matches ‘in quantity and kind’ – process called Kick and Count

- If no issues, proceed to next step (Receipt Control)
- Partial Receipt – contact intended recipient and vendor to confirm if partial receipt is intentional, and if
- Frustrated Goods – item is not correct item – cannot be received
- NOTE: Kick and Count process is VERY important – this is where the bulk of the problems of goods receipt are found
 - o What do they see when the material comes in – is there any way to reduce errors?

Receipt Control (applies to both OMNS & General Equipment) – confirming receipt of item in ERP

- Places item in ‘received status’ in ERP inventory

Warehouse (OMNS only) – items checked into warehouse bucket C10 updates PR status report PR status report – C10 pulls report and posts to their website (once a week?) – includes status of material until it is received in warehouse

(<https://wiki.navsea.navy.mil/display/C1072/NUWC+NPT+Code+107++Property+Management+Home>)

OMNS Direct Turnover doesn’t exist anymore (where item comes in and is brought to intended recipient) – All items are brought in to B47 and then stored in warehouse until intended recipient requests it

Plant Account C1073 – type of general equipment that gets IUID barcodes –

Goods Issue (OMNS)– once material is shown as checked in to the warehouse on the PR status report the intended recipient can submit a form in (Find system name) to have the item delivered

Goods Issue (General Equipment that is not plant account) – does not need to be requested it gets delivered to intended recipient

From the receipt side of the world – the receipt process applies to EVERYTHING from a pen to a major system – are there anyways to simplify the process for some items?

Documentation is important – each piece of material that is received by NUWCDIVNPT has a bunch of documentation – invoice, item stored in warehouse, request to have item delivered, confirmation of completed delivery, etc. – each transaction completed in ERP has an electronic document attached a (KSD)

FIAR Compliance

Inventory management is important because it is the way we confirm that the funding that was provided was used for the reason it was provided for

- This is what the funding was provided for
- This is what we purchased
- This is how the material was handled

(M. Snyder and P. Atwood, personal communication, April 28, 2020)

APPENDIX C. MEETING NOTES, 09 MARCH 2021

Quality of Paperwork

Largest problem identified by [REDACTED] is necessary research due to packing slips not including required information. Receive item and check Vendor packing slips and package labels for any numbers to link physical package to a single purchase. Most of the time the paperwork is missing the PR/PO or has a wrong number on it (common problem is that vendor will use the number from the last package sent to the same location). Researching the correct PR/PO# include:

- Searching PR Status Report (on Newportal) for vendor part number – file isn't updated daily, so sometimes information is missing
- Package packing list SHOULD list End User and/or C107 Card holder name – could ask that POC for PR/PO number
- Sometimes packing list provide GSA number – could reach out to GSA to confirm PO#

Frustrated Material

If item cannot be linked to PR/PO after 5 days the package is called frustrated material

Inducted Material Storage

End users need to pay a fee to store items in B47 warehouse. Users will sometimes drag their feet paying processing/storage fee, so material processing stalls. Beneficial for end user, because if they end up needing the item before it goes into storage, they never have to pay the fee.

N/Q

If an item is purchased as a (N/Q) the item will automatically be processed for storage. If the end user reaches out to B47 to request that item is issued immediately, B47 will sometimes skip kick & count to save time

Base Access

Trucks have trouble getting on base sometimes – outdated passes, incorrect paperwork. Used to be able to escort vendor trucks on base, but cannot not due to COVID restrictions, so now they get turned away – this adds to timeline for some procurements

ERP Functionality

ERP has the functionality to automate many processes but Navy has not paid to activate those modules. One module in ERP has the ability to analyze a workspace and suggest where to store items to optimize space, which would really benefit receipt control. Without that module, receipt control spends more time than necessary doing the same tasks

Updated Processing Process

Starting 1 March 2021, B47 now uses a scanner and spreadsheet to track incoming package tracking numbers; when previously they wrote them out by hand. Going digital has helped B47 in package research and saved time. They also now use tablets with WIFI for this purpose.

Personnel

Roughly 25 persons work in the warehouse, a mix of Government and Contractors. 6 people work to process packages. Other jobs include maintaining the storage bay, forklifts, delivery drivers, etc. Contractors cannot post PCard information and cannot touch Classified material. Only a few people that work in the warehouse actually work for C1073. Naval Sea Logistics Center (NSLC) processes the bulk of the packages that are delivered and Naval Facilities Engineering Systems Command (NAVFAC) delivers heavy freight (50-70lbs packages / 300lbs total)

Property Leads

Each technical department has assigned a Property Lead. Need to do research to figure out who they are. [REDACTED]
[REDACTED] is the Property Lead for C15 [REDACTED] (used to hold that position)

Process

Items Delivered by truck

Items scanned into excel

Package information researched to determine what order (PR/PO) it belongs to

C1073 updates ERP (MIGO report) to mark item as received; ERP pings C1071 to finish material receipt process, and update MMTS

(N/Q) item delivered to end user

(N/Q) end user contacted to pay for induction. Kick & count. Item inducted to storage. Stored by WBS#

(A. Jordan and S. McLane, personal communication, 09 March 2021)

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