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Transformation in Department of Defense Contract Closeout

June 2003

by

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Abstract

The Department of Defense (DoD) has tens of thousands of contracts physically completed but not formally closed-out. At issue are potentially millions of dollars that are obligated on those contracts which could be deobligated, thus making them available for use by DoD. At the request of the Deputy Assistant Secretary of the Navy for Research, Development and Acquisition (ASN(RD&A) Acquisition Management)), our team was formed to chart the current contract closeout process and to recommend ways to improve and transform the process while reducing the current backlog of physically completed contracts. This report identifies the steps necessary to affect contract closeout once a contract becomes physically complete. Utilizing data from available DoD and non-DoD sources and interviews from personnel managing and working within the contract closeout process, our team (1) identifies the major causes preventing contracts from closing in a timely manner, (2) provides recommended actions to reduce the size of the overaged inventory of physically completed contracts, and (3) recommends modification to the existing closeout process to include pre-award and administration period actions in order to reduce the number of contracts that become overaged.

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EXECUTIVE SUMMARY

The Department of Defense (DoD) has tens of thousands of contracts physically completed but not formally closed-out. At issue are potentially millions of dollars that are obligated on those contracts, making the funds unavailable for use by DoD. At the request of the Deputy Assistant Secretary of the Navy for Research, Development and Acquisition (ASN (RD&A) Acquisition Management)), our team was formed to recommend ways to improve and transform the contract closeout process and reduce the Navy's inventory of physically completed contracts administered by the Defense Contract Management Agency (DCMA). While the focus of the research effort was on Navy contracts administered by DCMA in the Mechanization of Contract Administration Services (MOCAS) system, findings, recommendations, and conclusions can apply to any contract management office involved in contract closeout.

Utilizing data from available DoD sources and interviews from personnel managing and working within the contract closeout process, this report (1) identifies the steps necessary to administratively close a contract once it becomes physically complete (2) identifies the major causes preventing contracts from closing in a timely manner, (3) provides recommendations to reduce the size of the inventory of physically completed contracts, and (4) recommends modifications to the existing closeout process, including pre-award and post-award actions to expedite contract closeout. Recommendations are grouped in such a manner as to suggest changes that can be made in the near-term and thus do not require regulatory changes, intermediary actions that will require some changes to the Federal Acquisition Regulation (FAR) or other regulatory and policy guidance, and transformational changes that will require significant modification to existing regulations and may also require statutory relief or changes. Our research centered on the elimination of the backlog of overaged contracts and methods to affect timely closeout in order to focus on the primary reasons for affecting closeout.

Many key issues impacting contract closeout were discovered during our research. The first is the reasoning behind closing contracts which include: (1) reducing Government liability, (2) ensuring proper accountability of Government funds and

property, and (3) returning obligated funding to the Services as quickly as possible with a goal of being able to reutilize that funding for other obligations and expenditures. A second significant issue is the failure of DoD agencies and Services to adequately communicate with each other and contractors. As such, each organization is optimized to accomplish their desired management goals, yet they have caused unintended impacts on other commands. The result is sub-optimization of each of the contract closeout actions rather than an optimization of the entire process. Contributing factors to this phenomenon are: (1) the Defense Contract Audit Agency's (DCAA) audit scheduling practice which causes unintended delays in the timely closeout of many DoD contracts; (2) the Defense Finance and Accounting Service's (DFAS) policy of paying invoices through a prorated method which is creating havoc among buying activities and administration activities in determining an accurate status of obligations and expenditures on a contract; and (3) the buying command's comptroller policies that require a multitude of accounting lines on contracts to provide additional clarity in obligations, thus creating tremendous complexity in administration and paying invoices. In addition, we identified that many of the policies and procedures adopted in the FAR over the last several years to improve contract closeout are either ineffective, too narrow, or are not being accomplished.

Although this report covers many of the issues regarding contract closeout, it does not delve into issues other than those determined to be of greatest value to this report and our research sponsor. Specifically, this report does not address property administration, legal hold on contracts, special reconciliation issues, patent or copyright delays, or the plant clearance process. Additionally, review of statistical data and interviews with DoD acquisition professionals led the team to center on the two most populous types of contracts that appear in the physically completed but not closed category; Cost-Plus-Fixed-Fee and Firm-Fixed-Price contracts. Many other types of contracts did not receive significant attention due to their less significant role in the existing backlog.

In addressing the many issues that came to light during our research, we propose a number of recommendations that can have an impact on reducing the backlog and others that can reduce the number of contracts that will become overaged. Amongst the most

meaningful recommendations, we feel DoD must immediately embark on an improved training regimen that encourages cross-organizational contacts and more of an IPT-approach to contracting. Up-front involvement prior to contract award from the paying office and the office that will administer a contract could pay tremendous dividends during administration and closeout. Furthermore, we conclude that permanent organizational resources should be employed on contract closeout if it is indeed a priority. Additionally, the DoD should adopt a method of processing multiple contracts for administrative closure through a proposed batching process. Another significant recommendation involves the reduction of requirements for auditing contracts and a form of "self-audit" by a licensed accounting firm that already audits a company's financial statements. Further recommendations push for the expanded use of quick-closeout terms and improvement to the Navy's system for reviews of canceling funds.

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I. THE CURRENT STATE OF CONTRACT CLOSEOUT

A. BACKGROUND

The Department of Defense (DoD) has tens of thousands of contracts that are physically completed but not formally closed. Of concern are the millions of dollars obligated on these contracts, making the funds unavailable for use. Delays in the closeout process can result in the loss of current year funds as appropriations obligated on these physically completed contracts close. This is clearly an inefficient use of DoD resources. Within the Navy alone, it is estimated that over $2,000,000,000 are obligated on over 47,000 physically completed contracts.[1]

Recognizing that the DoD is losing millions of dollars annually on physically complete contracts not administratively closed,[2] and realizing that DoD is inefficiently utilizing scarce resources, Secretary Rumsfeld's Business Initiative Council (BIC) declared transformation of the contract closeout process a top ten BIC initiative. Afterward, personnel within the Office of the Assistant Secretary of the Navy for Research, Development and Acquisition (ASN (RD&A)) identified a significant backlog of physically complete Navy contracts administered within the Mechanization of Contract Administration Services (MOCAS) system. MOCAS was initially developed in the 1960s as a contract administration tool, although both the Defense Contract Management Agency (DCMA) and the Defense Finance and Accounting Service (DFAS) have modified it significantly and it is now used for both administration and payment functions.[3] All contracts being administered by DCMA are managed in MOCAS, which is divided into several Contract Administration Report (CAR) sections that indicate the status of contracts.

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[1] Data taken from the February 2002 – February 2003 MOCAS download of Navy contracts. The information is found in the obligated amount column, referring to funding that was obligated on each of the contracts but has not yet been expended. As the funding expires, it will no longer be available for DoD uses of any kind. This topic will be covered in greater detail in Chapter IV - Batch Processing.

[2] Nearly $50,000,000 was identified for replacement funding for the Navy alone in FY2002.

[3] GAO Report D-2002-027, 19 December 2001, p. 1.

There is renewed urgency to resolve this enormous backlog of physically completed but not closed contracts due to increased interest in more effective management of DoD's limited resources and moves to ease the transition from MOCAS to its proposed replacement system.[4] These physically completed contracts appear in MOCAS CAR Section 2 and are defined by the Federal Acquisition Regulation (FAR) as being physically completed once the contractor has completed and the Government has inspected and accepted the supplies or services, when all provisions have expired, or if termination action has commenced.[5] Due to a lack of emphasis or management priority on closing physically completed contracts, the overall DoD backlog of overaged contracts, defined as those contracts that have exceeded the time allotted by the FAR for timely closeout, has reached over 19,000 contracts,[6] with millions of dollars of unexpended obligated funds tied to them. There are several reasons that contract closeout has become a priority within DoD, although the most pressing appears to be the concerns to effectively expend DoD funding prior to appropriations being closed, to eliminate potential liabilities that may be incurred on contracts prior to administrative closeout and fund closure, and to ensure proper disposition of Government property, materials, and funding.[7]

The Under Secretary of Defense for Acquisition, Technology and Logistics (USD (AT&L)) has recently applied pressure on Service acquisition officials to reduce the potential pecuniary liability as well as to release funding currently obligated on physically completed contracts. As such, ASN (RD&A) is placing emphasis on closing out physically completed contracts, reutilizing deobligated funds when appropriate, and removing potential liabilities that could impact current year funding authority. Since current year funding must be used to pay for previous fiscal year liabilities when the

4 GAO Report D-2002-027, 19 December 2001.

5 FAR 4.804-4.

6 MOCAS OPR Matrix, March 2003 Reporting of Closeout "Buckets" of Responsibility.

7 Taken from Master's Theses of Jim Volovcin and J. J. Patton.

particular appropriation is closed or insufficient,[8] significant impacts on current procurement programs can occur if contracts are not closed, including injecting uncertainty into DoD acquisition programs in the form of decreased funding lines.

As previously stated, MOCAS CAR Section 2 has approximately 47,700 contracts that originated within the Navy, with over $2,400,000,000 in unexpended funds tied to those physically completed contracts.[9] The fact that so much money is tied to physically completed contracts gains in importance when considering the large sum of that funding that resides on overaged contracts, defined as those contracts that have exceeded Federal Acquisition Regulation (FAR) required timelines for closeout.[10] Table 1 demonstrates the FAR standards for timely contract closeout.

Contract Type	**Time Period to Close**
Contracts Using Simplified Acquisition Procedures	Evidence of Receipt and Final Payment
All other Firm-Fixed-Price (FFP) Contracts	6 Months
Cost-Reimbursement Contracts	36 Months
All Other Contract Types	20 Months

Source: GAO Report D-2002-027, 19 December 2001 and FAR 4.804

Table 1. Time Standards for Contract Closeout.

Some of the overaged contracts date back to the early-1980s and involve funding that has long-since closed. Reconciliation of such aged contracts may require current year funding to pay for unliquidated obligations and increases the complexity of final determination due to difficulties in assembling an accurate picture of what occurred on a 30-year old contract. Of the 47,700 Navy contracts listed in MOCAS as physically complete, over 11,000 or 23.4% of them, are overaged.[11] With this in mind, the ASN

8 General Accounting Office, "Principles of Federal Appropriations Law, Second Edition" of July 1997.

9 Taken from the DFAS MOCAS download for February 2003.

10 FAR 42.804.

11 USD (AT&L) Bucket Plan Matrix of March 2003.

(RD&A) requested that the Naval Postgraduate School (NPS) examine the contract closeout process and make recommendations to reduce the number of physically completed contracts within MOCAS and prevent current and future contracts from becoming overaged.

B. THE ISSUE WITH CONTRACT CLOSEOUT

Due to the very nature of contract closeout, there will always be a fairly large number of contracts that reside in MOCAS CAR Section 2 as physically completed but not administratively closed. A management technique to estimate the level of expected inventory is addressed in Chapter II. Within MOCAS CAR Section 2, each contract is assigned a reason code by the Administrative Contracting Officer (ACO) to indicate the reason the contract is not yet closed. Reason codes range from "A: Contractor has not submitted final invoice/voucher," through "Z+6: Awaiting Removal from Excess Funds," with every conceivable reason in between.[12] The majority of contracts are closed on time and do not become overaged,[13] although they will appear in MOCAS until all closeout actions have been completed and final reconciliation and closeout actions have been posted by DCMA and DFAS. The FAR stipulates a minimum of 15 administrative closeout procedures that must be accomplished for a contract to be closed, although there are multiple sub-steps that have been identified during reviews of activity closeout manuals and other guidance. Table 2 lists the fifteen administrative closeout procedures mentioned in the FAR. A detailed representation of the current closeout process is available in Appendix A of this report, which contains a step-by-step process chart delineating the various activities responsible for closeout actions in accordance with applicable FAR provisions and other DoD directives.

The DoD has made strides reducing the number of overaged contracts in MOCAS CAR Section 2, as evidenced by the reduction of approximately 3,500 contracts in the

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12 DFAS Tasking Memo 02-196, "R2 Overaged Reason Codes".

13 Data from the USD (AT&L) Bucket Plan Matrix from January through March 2003 shows that number of contracts entering the MOCAS CAR Section 2 is nearly constant, yet the number of contracts reaching overaged status is decreasing. This demonstrates that the majority of contracts are closing within the FAR guidelines or the number of overaged contracts would continue to grow at a larger rate than shown.

period covering February 2002 to February 2003, although they have had somewhat limited success in eliminating this backlog in a timely manner. The General Accounting Office (GAO) estimates it will likely take at least six years to eliminate the current inventory of physically completed contracts unless significant improvements are made in the oversight applied or the resources allocated to closeout.[14]

(1) Disposition of classified material is completed
(2) Final patent report is cleared
(3) Final royalty report is cleared
(4) There is no outstanding value engineering change proposal
(5) Plant clearance report is received
(6) Property clearance is received
(7) All interim or disallowed costs are settled
(8) Price revision is completed
(9) Subcontracts are settled by the prime contractor
(10) Prior year indirect cost rates are settled
(11) Termination docket is completed
(12) Contract audit is completed
(13) Contractor's closing statement is completed
(14) Contractor's final invoice has been submitted
(15) Contract funds review is completed and excess funds deobligated

Source: FAR 4.804-5

Table 2. Administrative Closeout Procedures.

In response, USD (AT&L) developed a "Bucket Plan" metric in which overaged contracts were placed in various batches based on reason codes in MOCAS and were assigned to those Agencies with cognizance over that particular reason code. The agencies include: the Defense Contract Audit Agency (DCAA), DCMA, the Defense Finance and Accounting Service (DFAS), defense contractors, and the individual military Services. Assuming that the MOCAS reason codes reflect accurate status, DCAA has responsibility for closeout actions on 15.56% of the contracts in MOCAS CAR Section 2, DCMA for 16.32%, DFAS for 28.42%, Industry for 36.22%, and the Services are responsible for the remaining 3.48%.[15] The most interesting conclusion to draw from

[14] GAO Report D-2002-027, 19 December 2001, p. 3.

[15] USD (AT&L) Bucket Plan Matrix of March 2003.

this information is that the Services, who actually own the unexpended funding that resides on the physically completed contracts, are only able to impact less than five percent of the actions required to close the contracts listed in MOCAS CAR Section 2. In fact, of the major stakeholders, only the Services have a direct incentive to deobligate as much of the unexpended funding as possible. A complete stakeholder analysis is included in Appendix B of this report and illustrates the incentives, priorities, and interests for all of the major activities that play a role in contract closeout.

C. SOURCES OF DATA

MOCAS was originally conceived as a contract management tool, although it has evolved into an all-encompassing system that incorporates the contract administrative function as well as the payment and status functions. Our team conducted a statistical analysis of the Navy data in the MOCAS CAR Section 2 database for the period of February 2002 through February 2003. Within MOCAS CAR Section 2, nearly 50% of the contracts are missing reason codes. Although reason codes are technically not required until a contract becomes overaged, management of the process now relies significantly on an accurate status throughout the closeout process and therefore the codes should be utilized once a contract enters MOCAS CAR Section 2. Furthermore, a spot verification of the reason codes provided in the MOCAS database by one Naval Systems Command yielded an error rate nearing 90%, indicating that some ACOs are not updating the status of contracts in MOCAS as the reason codes change throughout the closure process. Simply improving the accuracy of the MOCAS database will not, in itself, improve the contract closeout process, but it will give improved visibility and reliability to management in formulating methods to best deal with the backlog.

Analysis revealed cost-type contracts for services as the most likely to become overaged. As such, the majority of recommendations within this report to improve the contract closeout process involve this type of contract. Detailed summaries of findings within the MOCAS database are presented in the following sections, with detailed statistics included in Appendix C.

Data and process information were also derived from a review of GAO reports, Department of Defense Inspector General (DoDIG) findings, previous thesis recommendations, and various agency publications and online sources. A summary of many of these resources is included in Appendix D. However, one of the most valuable sources of information came from individual DoD employees working within the closeout process. The closeout team conducted over 40 interviews at twenty activities to obtain the expert opinions of those most familiar with the issues involved in contract closeout. A detailed listing of the interviews conducted is located within this report's bibliography.

D. FINDINGS

Our research indicates that over 40% of all contracts that enter MOCAS CAR Section 2 will become overaged,[16] with the most likely reasons presented in the following summary statistics section. This report focuses on those issues that were indicated as primary reasons for delay by both MOCAS statistics and by those involved in contract closeout process at various field activities. It became evident that on many contracts, the process itself was not overly burdensome, but the organizational structure and some of the externally imposed factors contribute to the backlog. As stated, our team attempted to focus on ways of tackling the existing backlog while also seeking long-term solutions to the root causes that result in contracts migrating to an overaged status.

During our research, several issues were discovered. The first is the lack of organizational alignment. We suggest several recommendations that would better align the organizations to affect contract closeout in Chapter II. The second issue is that there must be a means of reducing the backlog without resorting to one-by-one processing. We present a method of batch processing contracts with the goal of reaching negotiated settlement of numerous overaged contracts simultaneously in Chapter IV. The third major issue revolves around payment issues ranging from the method of payment through

[16] Derived from February 2002 through February 2003 MOCAS downloads. The average probability of a contract under reason code M (negotiation of overhead rates pending) becoming overaged was determined to be 34% and for reason code A (contractor has not submitted final invoice/voucher) to have a 58% probability of becoming overaged.

reconciliation. Recommendations seek to change the way DoD approaches payment both through up-front actions as well as in processing payments in Chapter V. A fourth issue involves final rate determination and we suggest several methods of tackling the delays under the current process in Chapter VI. Due to the limited duration and scope of this initial report, a section was added to Chapter VII to point out findings that merit further review by follow-on project teams. These are issues that were either not identified as primary causes of the backlog or were beyond the capability of our project team to adequately address in this report.

E. COST MODEL

Our team initially developed a cost model that could be used as a tool for both estimating the cost of closing a contract as well as estimate the costs associated with each type of contract. A cost model does not currently exist in this specific format that ascertains the amount of labor required to close a contract, although DFAS, DCMA, and DCAA all track the agency-wide costs that are meaningful to each of their organizations. The data obtained at this Agency-wide level were of limited value since our research determined that each used different criteria to assign "closeout" costs vice "administration" costs and the two areas frequently overlap, and some Agencies did not associate their costs to close contracts at all. In many cases, estimates were used to populate the various workload-tracking systems since tracking specific actions to closeout appeared to be an administratively intensive process.[17] Due to tremendous differences in organizational measures for contract closeout, differing organization goals for the stakeholders, and huge differences in contract complexities, the model quickly lost any significance due to the enormous range of estimations it produced in a Monte Carlo simulation. As a replacement, the team set out to obtain two new cost models, (1) a top-level aggregate cost of closeout for each of the key stakeholders to the extent it is tracked, and (2) a detailed listing of tasks involved in the closeout process. In this manner, the top-level cost model would estimate the overall cost of contract closeout for each fiscal year. Immediately, the same issues arose at the organizational level, where no two

[17] Interview with DCMA Personnel Labor Administration System (PLAS) coordinators.

organizations possessed the data necessary to pull costs into a single process known as contract closeout. For example, DCMA tracks various process in its workload system, but all of the tasks are not included,[18] and DCAA has no metric to measure contract closeout itself since its routine cost-incurred audits fulfills roles other than that of a closeout audit.

Interviews with personnel intimately familiar with the closeout process at several DCMA, buying command, DCAA, and DFAS offices yielded information to create a first rendition of a task-oriented model to capture the major tasks and sub-tasks associated with contract closeout. Once all of the tasks are identified, which is the basis of the work conducted by our team, follow-on studies can examine the specific costs associated with each of those tasks. Tasks can then be translated into cost elements by assigning approximate times-to-complete figures, pay-level of personnel to assign those tasks, and potential queues or decision points that also may exist in pooling all of the direct and indirect costs associated with contract closeout.

The cost models are attached as a CD-ROM, with summary data and hard-copy format of the models included in Appendix E. Again, the complete model will have to be assembled by a follow-on study due to the complex nature and the time required to accomplish such an endeavor. Copies of the CD-ROM can be obtained from the Naval Postgraduate School Library, listed within the initial distribution list at the end of this report.

F. THE EXISTING PROCESS

The FAR presents fifteen procedures, listed in Table 2, required to accomplish contract closeout, however upon closer examination, there are myriad sub-steps and sub-processes that must also be completed to reach final closeout in MOCAS. A process flow diagram was created to include process steps taken from multiple agency closeout process charts and interviews with personnel intimately familiar with the process. Once created, the diagram was validated during multiple interviews with personnel working

[18] Per the DCMA HQ PLAS Manager, PLAS Code 181 tracks "Closeout Actions," although there are other codes that also apply, such as 141-property clearance or plant clearance. As such, it is not possible to gather all of the tasks related specifically to contract closeout, although many of them are available.

within the process at buying commands, DCMA offices, DFAS payment centers, contractor personnel, and DCAA local offices.

The attached CD-ROM, contains the web-enabled process charts written in hypertext markup language (HTML) code using Microsoft FrontPage® as the editor. Each process block contains links to source documentation and references and is a useful tool in interpreting the tasks and responsible agencies involved in completing contract closeout. Ideally, the process chart can be posted on the web and used as a reference and training tool for personnel assigned contract closeout duties.

G. SUMMARY STATISTICS

The general purpose for conducting analysis of data pulled from the MOCAS system was to examine whether the presumptions about underlying causes of the backlog in the Contract Closeout (CCO) process were valid. Initial interviews with those familiar with and working within the CCO process indicated that nearly everyone has their own reasoning as to why contracts do not close in a timely manner, and why they remain in a queue awaiting further action. Some personnel pointed to overhead rates as the most significant problem, while others mentioned Government-furnished property or classified material as the key issues affecting closeout. To provide insight into the causes, however, analysis of the MOCAS database was necessary.

In order to best deal with the huge amount of data in MOCAS CAR Section 2, we stratified the records into meaningful categories. We initially examined the overall data and then limited the data to the contract types that represent significant portions of the backlog or high dollar values. After we sorted the data, we created tables that illustrate our findings that could be useful to understand the nature of the backlog. Those tables are presented in their entirety in Appendix C of this report. This section highlights the results of our statistical review of the MOCAS CAR Section 2 data. The issues brought up in this section will be discussed in detail in further chapters.

1. Data

The data used in creating the tables in Appendix C are the Navy monthly MOCAS download reports that include all of MOCAS CAR Sections 2, 3 and 4 contracts that are

physically completed but not closed out. Since DoD agencies have minimal direct influence over contracts from MOCAS CAR Sections 3 and 4,[19] our analysis focused only on those records found in MOCAS CAR Section 2. This section contains the contracts that form the source of the backlog that USD (AT&L) has pressured the Services to reduce. Monthly MOCAS downloads span the period from February 2002 through February 2003.

Once summary reviews of all contracts listed in MOCAS CAR Section 2 were examined, the overaged contracts as of 28 February 2003 were reviewed. In the discussions below, unless specified otherwise, all results are proportionally similar for both overaged and overall contracts. In this section, the phrase "overall contracts" identifies both overaged contracts and the contracts within the appropriate closeout timeframes addressed by the FAR.

2. Gaps in the Analysis

There are two significant concerns that must be addressed in this statistical analysis. It is critical to understand the nature of these concerns in order to determine the significance of the results of the analyses. The first concern observed within the data was blank entry cells in the reports. On average, nearly 41% of the contracts in MOCAS CAR Section 2 do not have a reason code; this ratio has been increasing since February 2002 when it was 36% compared to 45% in February 2003. These are significantly high ratios since trends and conclusions depend on analyses conducted on only about half of the contracts in the section. Moreover, if users of the MOCAS system leave the reason code cells blank for the contracts with a specific characteristic, the potential significance of our findings could be even smaller.

For overaged contracts, the "no reason code ratio" is lower and it dramatically decreases in more recent reports. For example, where 27% of overaged contracts do not have a reason code assigned in the February 2002 report, the ratio decreases to 10% for

[19] Each monthly report has approximately 50,000 contracts. Total number of MOCAS CAR Sections 3 and 4 contracts are only 4%. Sections 3 and 4 contracts wait for litigation and reconciliation, respectively. Reconciliation in Section 2 (reason code P) and Section 4 are different. Section 2 reconciliation is part of the normal closeout process whereas a contract goes into Section 4 only if it is reopened for reconciliation purposes.

February 2003. As such, our analyses conducted on overaged contracts appear to be significantly more reliable with more recent data. This also indicates that agencies tend to be far more aggressive in entering reason codes for a contract in MOCAS CAR Section 2 as it matures and becomes overaged. Another potential cause of the missing reason codes may reside in a misunderstanding amongst ACOs who indicated that they perceived reason codes applying only to overaged contracts, as indicated by the very name of the codes themselves "Overaged Reason Codes."[20] This is a significant problem since every major organization tracking MOCAS CAR Section 2 contracts must be aware that the codes may only be inputted once a contract becomes overaged; a fact reinforced by the data that shows a higher percentage of overaged contracts containing reason codes compared to the contracts that have yet to become overaged. However, since many overaged contracts continue to reside in MOCAS CAR Section 2 without a reason code assigned, any analysis of the data will not give totally accurate results.

The second concern about the data is its overall accuracy. During our interviews, we discovered that reason codes in the MOCAS reports do not always reflect the true status of the contract; that users of the system tend to enter the reason code which generally causes the contracts to remain open, e.g. reason codes M - Negotiation of Overhead Rates Pending, and A - Contractor has not Submitted Final Invoice/Voucher. While examining the following results and the tables in Appendix C, it is critical to remember these aforementioned issues with the data.

3. Assumptions

- Users of the MOCAS system randomly leave the reason code blank while entering data into the system. They do not tend to leave reason code blank for a contract with specific characteristics. For example, if the users tend to leave the reason code blank especially for service contracts this will dramatically decrease the accuracy of our findings.
- The type and kind of contracts entering MOCAS CAR Section 2 are of the same make-up of the contracts held in MOCAS CAR Section 1 active contracts.

[20] Interviews with DCMA personnel from four separate DCMA organizations.

4. Highlights from Summary Statistics

a. Reason Code Trends Table

Our purpose in creating the trend table, shown in Appendix C, Table 8 is to determine the most common reason codes and to determine whether any trends or cycles are evident. We calculated the number of contracts in each reason code for the monthly reports we obtained. Within the reports, the reason codes listed below are the top six reason codes[21] for contracts in the backlog. The ratios represent the average percentage of that reason code in the entire pool of contracts within the Navy portion of MOCAS CAR Section 2. For example, 26% of the approximately 47,700 contracts in each of the monthly reports are assigned reason code M as their most recent status.

M Negotiation of overhead rates pending (26%)

A Contractor has not submitted final invoice/voucher (16%)

H Final audit in process (5%)

Y Awaiting notice of final payment (3%)

P Reconciliation with paying office and contractor being accomplished (1%)

N Additional funds requested but not yet received (1%)

Other reason codes have ratios of less than 1%.

For further discussions in this section as well as in the following chapters, our analysis will focus only on these six most recurring reason codes. Since more detailed information, such as causes or recommendations, regarding these reason codes will be discussed in those following chapters, detailed findings will not be discussed here.

Analyzing the trends in Table 8 of Appendix C, it can be observed that the total number of contracts in the backlog is steadily decreasing. There are 47,786

21 There are 33 reason codes identified in MOCAS system found in the DCMA MOCAS Trusted Agent Procedural Guide, Appendix B-5.

contracts in the February 2003 report, whereas this number was 52,541 one year ago in the February 2002 report. Reason codes M and A are also decreasing as the number of contracts decrease, which is illustrated on the graph in Appendix C, Table 9. Not ignoring a minor increase in reason code H, we can state that the other four reason codes are almost steady since changes are insignificant with regard to the total number of contracts in the backlog.

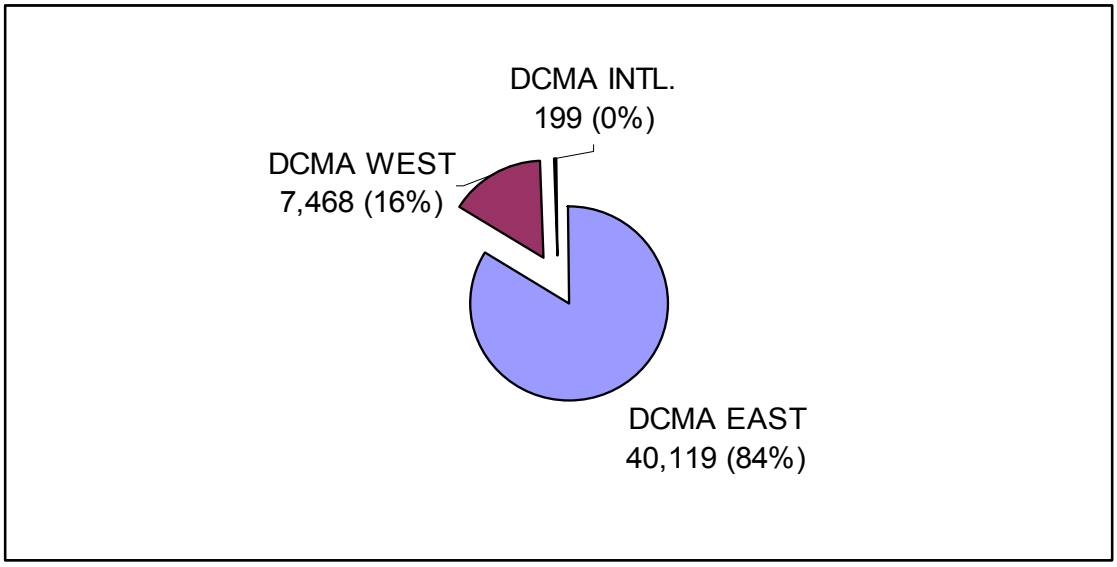
The graph for the overaged contracts, found in Appendix C, Table 10 is very similar to the overall contracts graph discussed. The only difference noted was a sharper decrease in the number of M and A reason coded contracts. Examining this table, it can be seen that all the reports have quite similar reason code breakdowns in terms of portions in the overall backlog. In this case, considering the February 2003 report as reflecting the most current situation, we used that report as our data resource for the following analyses.

b. General Overview of the February 2003 MOCAS Data

There are 47,786 Navy contracts in the February 2003 report of MOCAS CAR Section 2, with 11,673 of those contracts in an overaged status. The breakdown of these contracts by DCMA district is illustrated in Figures 1 and 2.

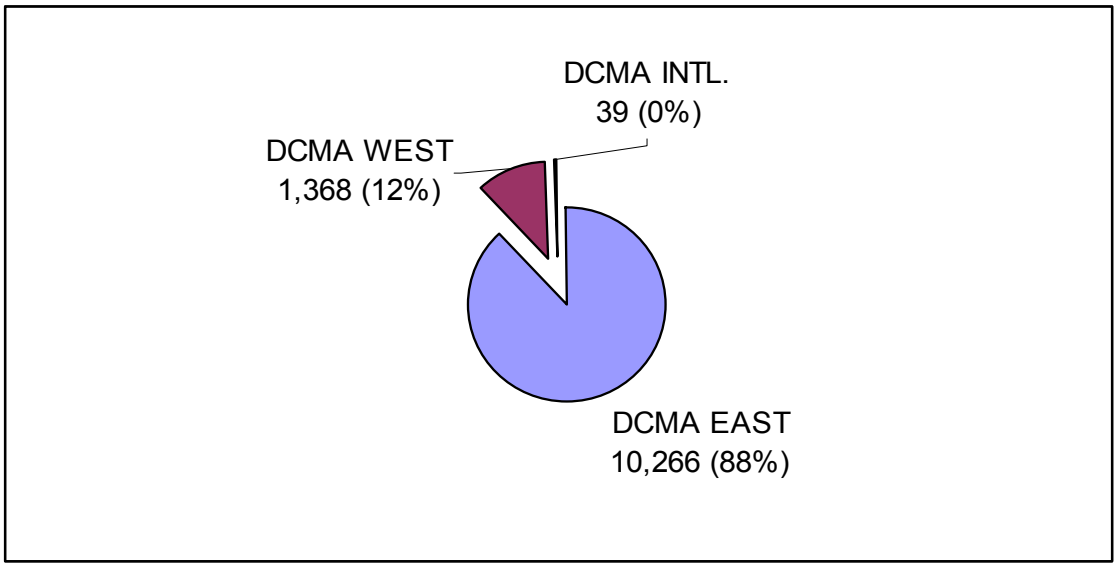
Examining these figures, DCMA EAST has the majority of the contracts in the backlog. This is not surprising since DCMA EAST controls the largest total number of active contracts, which are found in MOCAS CAR Section 1.[22] However, the DCMA EAST ratio for MOCAS CAR Section 1 contracts is only 69% whereas it is 84% for MOCAS CAR Section 2 and 88% for overaged MOCAS CAR Section 2 contracts. Therefore, there may be closeout problems with the contracts managed by DCMA EAST since they seem to have a larger percentage of overaged contracts than aggregate DCMA numbers. However, it should be noted that these results are greatly impacted by the complexity, nature, and type of the contracts that are being managed at each activity.

[22] Interview Conducted with DCMA Manassas ACO Personnel, 18 April 2003.



Source: Developed by the authors from the February 2003 MOCAS download.

Figure 1. Overall Navy Contracts by DCMA Districts.



Source: Developed by the authors from the February 2003 MOCAS download.

Figure 2. Overaged Navy Contracts by DCMA Districts.

c. Reason Code Breakdown for February 2003 MOCAS Download

The purpose of preparing the tables in Appendix C Tables 11 and 12 is to determine the type, kind, and range of dollar values of the contracts with a specific reason code. We chose the top six reason codes for this analysis cited in the previous section.

While examining the ratios below, one should keep in mind that those ratios do not necessarily reflect a problem. For example, Cost-Plus-Fixed-Fee (CPFF) contracts may have the highest ratio in the backlog, thus reflecting a possible problem in the contract closeout process of CPFF contracts. However, if most of the active contracts are CPFF, their higher ratio in the backlog is to be expected. Therefore, active contracts (MOCAS CAR Section 1) ratios must also be tracked to ensure consistency in the data and to identify trends.[23]

(1) Contract Type. For reason codes M, A, H, Y, and N, more than half (between 50% and 70%) of the contracts are CPFF contracts. For reason codes P and W, 45% of the contracts are Firm-Fixed-Price (FFP) and 30% of the contracts are CPFF. Time and Materials contracts follow with a ratio ranging from 8% to 22%.

Of the contracts in February 2003 report, 62% are CPFF, 16% are Time and Materials (T&M), and 14% are FFP. Other contract types only have a ratio of less than 2%. Of the overaged contracts, 58% are CPFF, 19% are FFP, and 15% are T&M contracts. Similarly, other contracts are less than 2% of the total. As such, the recommendations forwarded in this report center on issues relating to CPFF and FFP contracts since they make up the vast majority of the overall contracts in MOCAS CAR Section 2.

(2) Contract Kind/Contract Nature. For all of the reason codes, more than half of the contracts (almost 83% for M, A, H, and Y) are for services.[24] Supply Contracts and Price Orders follow service contracts for nearly every type. Examining all the contracts in MOCAS CAR Section 2, 73% are for services, 11% are Supply Contracts and Price Orders, and 9% of them are Research and Development (R&D) contracts. The fact that 73% of the contracts in MOCAS CAR Section 2 are for services, yet just over half of all DoD contracts are for services,[25] leads one to the

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[23] Of the MOCAS CAR Section 1 active contracts, 54% are Firm-Fixed-Price (FFP), 28% are CPFF and 6% are Time and Materials contracts.

[24] Of the active contracts, only 34% are for services. Therefore, below high ratios for services indicates a problem for the service contracts.

[25] GAO Report 03-574T, 19 March 2003, "Sourcing and Acquisition: Challenges Facing the Department of Defense".

assumption that it is more likely that a services contract will become overaged than contracts for supplies or R&D.

(3) Dollar Value. Almost 55% of the contracts in the backlog are less than $100,000, and nearly 75% of the contracts are than $500,000 of total obligation amount. This ratio is approximately the same for all reason codes and also for overaged contracts. The purpose of creating Tables 13, 14 and 15 in Appendix C is to examine the kinds and dollar values of CPFF and FFP contracts, and the types and dollar values of service contracts.

d. Details of CPFF, FFP and Service Contracts in the February 2003 Report

(1) CPFF Contracts. As previously mentioned, CPFF contracts account for 62% of all contracts in the February 2003 report, making up 58% of the total of overaged contracts. Of these CPFF contracts, 84% are for services and 13% are for R&D. In terms of total obligation amount, 51% of these CPFF contracts are below $100,000, 82% of them are below $500,000 and 90% of them are below $1,000,000. This ratio gains importance when considering there are quick-closeout procedures that apply to cost-type contracts with less than $1,000,000 of unsettled indirect costs that might have been used to close some of these contracts. The situation is similar for the overaged contracts; 87% of the overaged CPFF contracts in the February 2003 report have total obligation amount of less than $1,000,000. These statistics may indicate that the quick-closeout procedures, discussed in-depth in Chapter VI, are not being used when required.

(2) FFP Contracts. Of all contracts in the February 2003 report, 14% are FFP, also making up 19% of the total contracts considered overaged. Of these FFP contracts, 62% are Supply Contracts and Price Orders, although that ratio shrinks to 57% when considering overaged contracts. Surprisingly, 72% of FFP contracts (66% for overaged FFP) have a total obligation amount of less than $100,000 and 87% of them (80% for overaged FFP) have a total obligation amount of less than $500,000. Reason codes for overaged FFP contracts are listed below, with the top three being reason codes P, A, and V.

P Reconciliation with paying office and contractor being accomplished (54%)

A Contractor has not submitted final invoice/voucher (27%)

V Disposition of Government property pending (19%)

Among FFP contracts, 54% of them indicate reason code P, awaiting reconciliation, which is discussed in Chapter V as a potentially time intensive process. Since 66% of the overaged FFP contracts are less than $100,000, we may have stumbled upon proof that DoD frequently spends more money than it saves in the contract closeout process.

The expectations are that FFP contracts less than $100,000 should be considered closed once evidence of final payment is received.[26] Since 66% of all overaged FFP contracts are worth less than $100,000, expectations are that the provisions already specified in the FAR would permit the administrative closure of a significant number of contracts. According to our research, 1,464 overaged FFP contracts fall into this category.[27] However, the reason codes that preclude the rapid closure of this large group of contracts are property terms, reconciliation issues, or delays in receipt of the final voucher. In addition, reason code V (disposition of Government property pending) was identified as a major delay in closeout only in regard to awaiting disposition instructions from buying organizations, not in the actual completion of property reviews.[28] This kind of delay, or queuing problem, is discussed in greater detail in Chapter II. Interviews indicated that the review itself took less than one day, in most cases, but required periods of up to six months to receive disposition instructions from the buying activity.

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[26] GAO Report D-2002-027, 19 December 2001, citing FAR 42.

[27] Appendix C.

[28] Interviews conducted with ACOs at DCMA Sunnyvale (Lockheed Martin Rep), DCMA Manassas, DCMA San Diego, DCMA SAIC Rep, and DCMA San Francisco, California.

(3) Service Contracts. Of the overall contracts in the February 2003 report, 73% are for services. Of these service contracts, 70% are CPFF and 20% are Time and Material contracts. In terms of total obligation amount on service contracts, 55% are worth less than $100,000 and nearly 85% are worth less than $500,000.

e. Contracts with the Total Obligation Amount of $100,000,000 or More

The summary statistics for this segment can be found in Appendix C, Table 16. These contracts have a total contract value of $100,000,000 or more. Only 0.3% of the contracts in the February 2003 report have this characteristic, but they are important to review due to their high dollar value.

The data demonstrate that 53% of these contracts are overaged compared to 24% of all overaged contracts in the February 2003 report. If we accept 24% as a norm, then 53% is an extremely high figure for these large contracts. Such a finding increases in importance due to the high dollar value associated with these contracts and the potential for closure of the obligated appropriations. Failure to remove potential Government liability on these particular contracts could have a significant negative impact on the Navy's future funding allocations.

As Table 16 illustrates, 32% are CPFF and 29% are FFP. However, within the group of overaged contracts, 47% are FFP. Half of these FFP contracts show reason code P (Reconciliation with paying office and contractor being accomplished) as the status and 20% of these contracts have reason code V (Disposition of Government property pending). For the CPFF contracts, the top reason code is A (Contractor has not submitted final invoice/voucher). Considering all contracts, P, A and V are the top three reason codes annotated on this population of contracts.

Of these high dollar value contracts, 30% are for major system acquisitions, 25% are Supply Contracts and Price Orders, and 22% are for services. For overaged contracts, the ratios are 38%, 29%, and 15%, respectively.

Another important issue regarding high dollar value contracts is the large number of contracts in MOCAS CAR Section 2 that appear without a reason code. Of such contracts, 21% do not have a reason code, whereas the ratio is only 10% for all overaged contracts, again indicating the lack of clarity of the data as a contract progresses to an overaged status. Considering the dollar value of these contracts, 21% seems quite high since the importance given to fulfill the MOCAS requirements for this kind of contract is expected to be more.

f. Contracts with the Unliquidated Obligation Amount of $1,000,000 or More

The statistical summary table of these contracts is found in Appendix C, Table 17. These contracts have unexpended balances of $1,000,000 or more. This situation is considered extremely important because of the high likelihood that these funds will be closed in the very near future or have already closed. For the Navy to utilize these funds, a determination as to their most effective and efficient use must be made soon to preclude their loss. The determination should be centered on the two options of expending the funds on the contracts in which they are currently obligated, or recouping the money and expending it for other pressing needs where allowed.

Of these contracts, 43% are overaged. As mentioned before, our norm ratio was 24%, indicating that this type of contract is far more likely to become overaged than most other contract types. Continuing with the review, 37% of the contracts are CPFF and 29% are FFP. However, in this overaged population, 44% are FFP.

Of these "high-unliquidated obligation amount contracts," 37% are for services and 27% are Supply Contracts and Price Orders. Within this overaged population of contracts, 44% are Supply Contracts and Price Orders. The top three reason codes for these contracts are P, A and W (Contract modification). These reason codes are the same for overaged contracts. A complete listing of all of the Overaged Reason Codes is located in Table 18 of Appendix C.

H. CONCLUSIONS

In accordance with our initial purposes for conducting these analyses of MOCAS CAR Section 2, it is important to validate the presumptions about the backlog. In the

analyses, we generally observed that most of the presumptions about the contracts within the backlog were correct, such as most of the contracts in the backlog are CPFF contracts. We observed some surprising results as well, such as half of the overaged contracts with high dollar value are FFP. These analyses become important since they reflect the true nature of the backlog and make further analyses and recommendations about the contract closeout process more reliable, since they are based on actual data vice many of the prevailing presumptions that have led much of the previous efforts to reform or modify the process.

We did not discuss all of the issues of this section in detail since the most compelling explanations and suggested solutions are discussed in later chapters. However, the data summaries contained in this chapter aided our team by focusing our research on topics we determined as having the greatest potential impact. These topics include the issues affecting CPFF contracts for services and large dollar value FFP contracts where reasons for delaying the closeout process include payment reconciliation issues and final rate determination delays. These topics are discussed in greater detail in Chapters V and VI.

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II. IDENTIFYING ROOT CAUSES AND LONG-TERM SOLUTIONS

The purpose of this chapter is to identify the root causes that created the current unacceptable backlog of overaged physically completed contracts residing in MOCAS CAR Section 2 and to find fundamental solutions to solve the problem. This chapter is organized into two sections. The first section describes the concept of Little's Law, how it can be applied to understand inventory levels, and how we used simulations of variability on the Little's Law equation to arrive at the conclusion that variability in the turnaround time queue is the root cause of the current backlog. The second section describes system archetypes and organization systems models and how we used these concepts to arrive at a recommended course of action of devoting permanent organizational resources to prevent future backlogs of overaged contracts.

A. ROOT CAUSE –THE EFFECTS OF VARIABILITY ON INVENTORY LEVELS

1. Little's Law

The concept known as "Little's Law" describes the variables that affect inventory levels. It is often expressed using the following equation:

Little's Law: Inventory (I) = Arrival Rate (R) x Turnaround Time (T), or I=RT.[29] (2.1)

The word "Inventory" is often associated with supply and logistics systems, however, an inventory can be any measurable unit within a system.[30] In the contract closeout system, the "inventory" is the number of physically completed contracts available for closeout. "Arrival Rate" is the measurable in-flow of units into the system. It is often expressed in units per time.[31] In the contract closeout system, the arrival rate can be expressed as the amount of contracts that become physically complete per unit of

[29] Anupindi et al., Managing Business Process Flows, p. 42.

[30] Ibid.

[31] Ibid.

time. For contracts managed in MOCAS, the arrival rate is the number of contracts transferred to MOCAS CAR Section 2 per unit of time. The "Turnaround Time" (TAT) is the time it takes to process a transaction or to service a customer.[32] Applied to contract closeout, turnaround time is the process time it takes to close the contract after physical completion.

Little's Law is best illustrated using an example. The FAR[33] states that the time standard for closing cost-type contracts is 36 months. This time standard will be used as the turnaround time in a hypothetical calculation to determine the expected inventory of cost-type contracts available for closeout at a typical contracting activity. For ease of calculation, an arrival rate of 100 contracts per month will be used. In other words, 100 contracts become physically complete per month, and it takes 36 months to process them through the closeout procedure. With these two variables defined, Little's Law reveals that the expected inventory of physically completed contracts available for closeout is 3,600.

Inventory Calculation: Inventory = 100 contracts/month x 36 months = 3,600 contracts (2.2)

Little's Law demonstrates that there is a linear relationship between inventory levels and arrival rate and turnaround time. An increase or decrease in either, or both, results in a corresponding change in the inventory. Therefore, in the example, if the command wanted to reduce their inventory of physically completed contracts, they would either have to reduce the arrival rate or decrease the turnaround time.

The formula and the hypothetical example both exhibit a static state with no variability. In reality, the contract closeout process is dynamic. There is variability in both the number of contracts that become physically complete per month and variability in the amount of time it takes to close contracts. Ignoring this variability, or using only average arrival rates and turnaround times when calculating inventory levels may result

[32] Ibid.

[33] FAR 4.804-1 (a) (3).

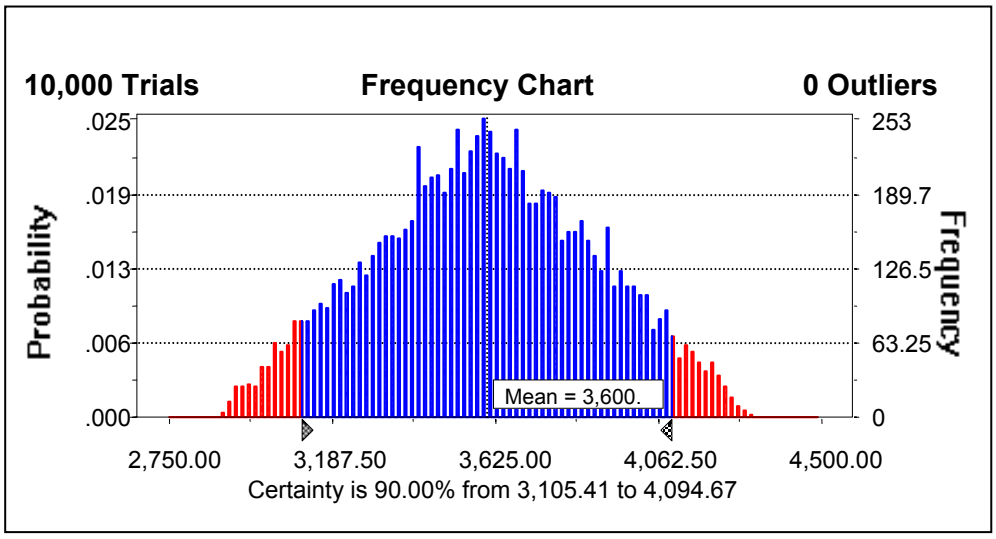
in inaccurate inventory forecasts and therefore poor estimating of required resources. Given the fact that there are turnaround standards stated in the FAR based on contract type, there will always be an inventory of physically complete contracts that will change based on changes in the arrival rate and changes in the turnaround time. The only way to completely eliminate the inventory is to reduce either the arrival rate or TAT to zero. Arrival rates and turnaround times will be discussed in detail in the following sections.

The affects of variability on inventory levels can be illustrated by running a Monte Carlo Simulation on Little's Law equation using Crystal Ball© software. The results of six simulations are discussed below. The first three simulation results show the affects of: (1) variability in arrival rate, (2) variability in turnaround time, and (3) variability in both arrival rate and turnaround time. To simplify the simulation, a triangle distribution was used to describe the affects of variability on the inventory calculation. A triangle distribution accounts for variability by establishing the minimum, maximum, and most likely figures. The first simulation shows the affects of 20% variability in the arrival rate while holding the turnaround time constant. Using the triangle distribution, the Little's Law independent variables become:

Variability in Arrival Rate: R = min: 80, max: 120, most likely: 100 contracts per month; T = 36 months (2.3)

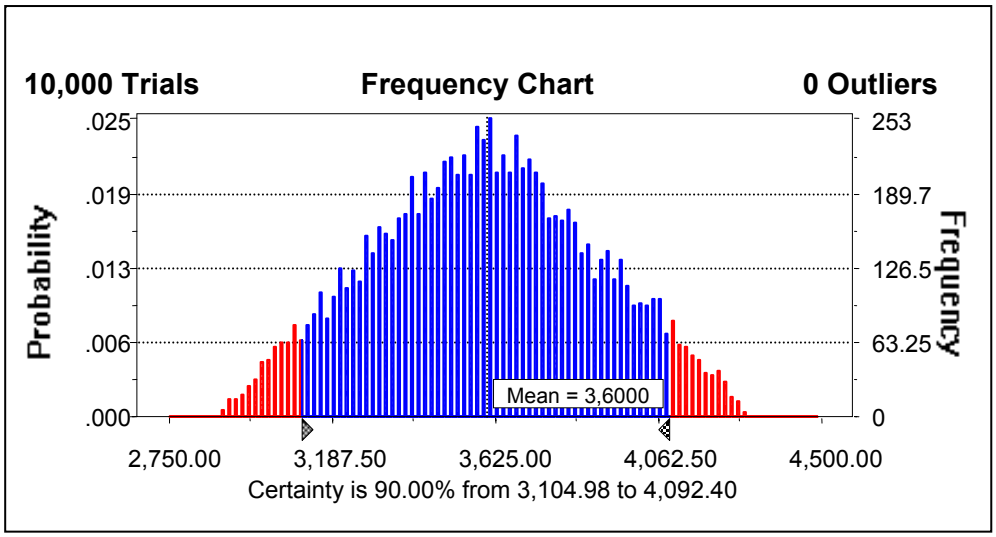
Figure 3 shows the results of the simulation of 10,000 trials. As the figure illustrates, the average inventory level remains at 3,600 contracts. However, the inventory level is now shown to range between 3,105 to 4,094 contracts with a 90% certainty level. If these conditions existed in the hypothetical situation, planning for this inventory range would be more accurate than planning for the calculated inventory level of 3,600 contracts using only average figures.

Figure 4 shows the effects of 20% variability in turnaround time while holding arrival rate constant. As can be expected of a linear relationship, the inventory level is approximately the same as above, between 3,105 to 4,092 contracts with a 90% certainty level. Again, a triangle distribution was used, but this time on turnaround time instead of arrival rate.



R = min: 80, max: 120, most likely: 100 contracts/month
T= 36 months
Source: Developed by the authors

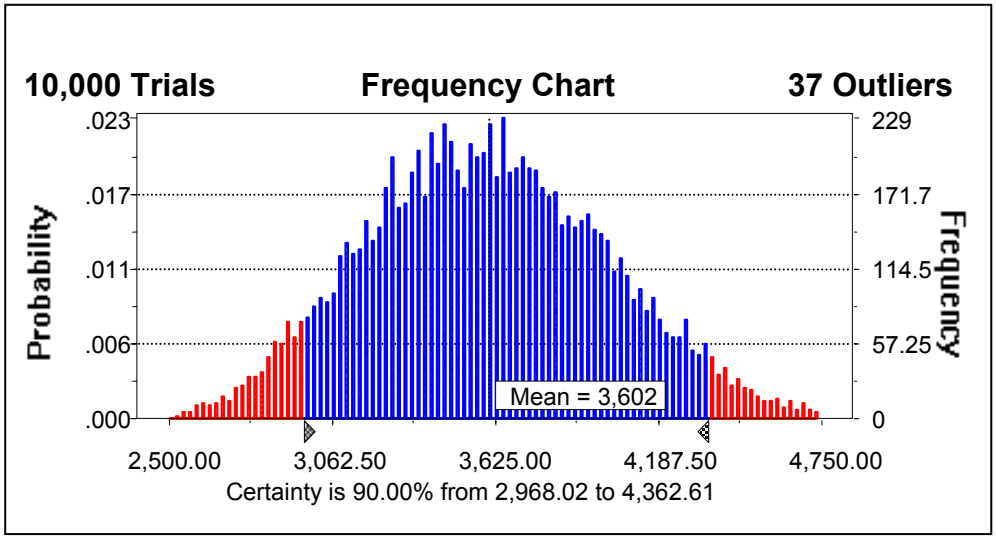
Figure 3. Twenty Percent Variance in Arrival Rate.



R= 100 contracts per month;
T= min: 28.8, max: 43.2, most likely: 36 months
Source: Developed by the authors

Figure 4. Twenty Percent Variance in Turnaround Time.

Figure 5 shows the effects of 20% variability in both arrival rate and turnaround time. This is the most realistic simulation for the contract closeout system due to the high degree of variability noted in the data. Appendix C brings to light a great deal of the variability present in the system, ranging from 30 overaged status codes to multiple contract types of various complexity and age. Notice that the variance in the inventory increases for a 20% "dual variability." The inventory level is now calculated to range from 2,968 to 4,363 with a 90% confidence level.



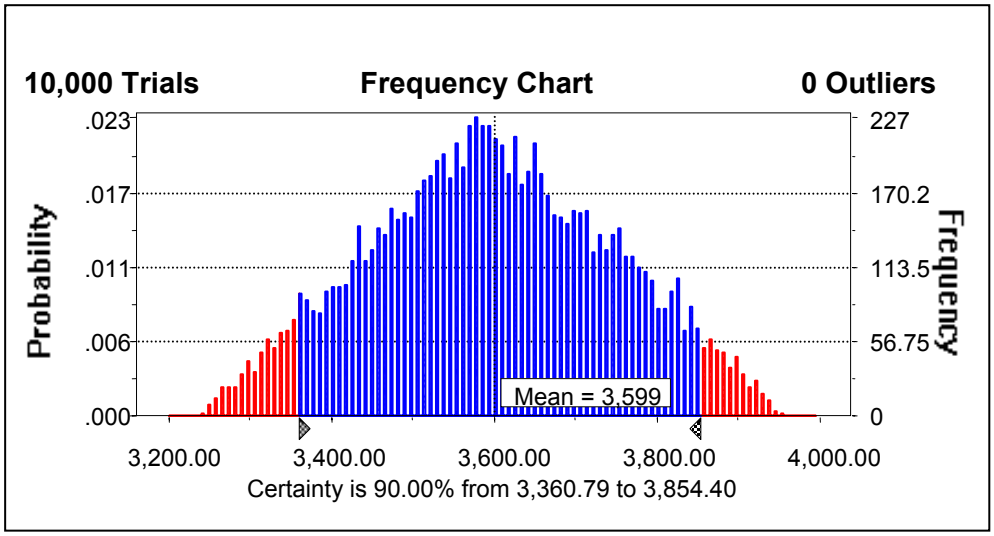
R= min: 80, max 120, most likely: 100 contracts/month
T= min: 28.8; max: 43.2, most likely: 36 months
Source: Developed by the authors

Figure 5. Twenty Percent Variance in Arrival Rate and Turnaround Time.

Reducing the variability is one way to reduce the inventory level in a dynamic system. Another way is to reduce the mean of the independent variables. The remaining three simulations show the effects of reducing both variability and the mean.

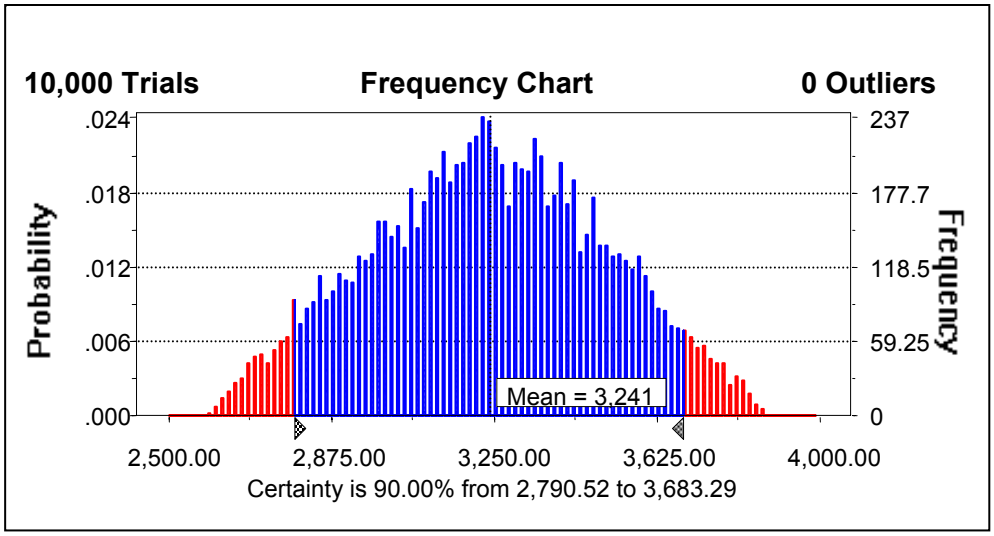
Within the contract closeout system, there is probably little that be done to affect the arrival rate, an assumption we have made in this analysis. It would be nearly impossible and undesirable to slow down the rate at which contracts became physically complete, short of awarding fewer contracts or instituting administrative controls to more evenly spread physically completed arrivals over each fiscal year. Even then, it would be

difficult to spread the workload evenly due to the varying nature of contract complexity. Therefore, the remaining simulations hold the arrival rate constant at the hypothetical rate of 100 contracts per month. Holding this variable constant displays the effect of only changing the turnaround time. This is important to illustrate because this is a variable that can be controlled. Figure 6 illustrates the effects of using a mean turnaround time of 36 months and reducing the variability from 20% to 10%. Figure 7 illustrates the effects of reducing the mean turnaround time by 10% but using the 20% variability factor. Figure 8 illustrates the effects on inventory by reducing turnaround time mean and variability by 10%.



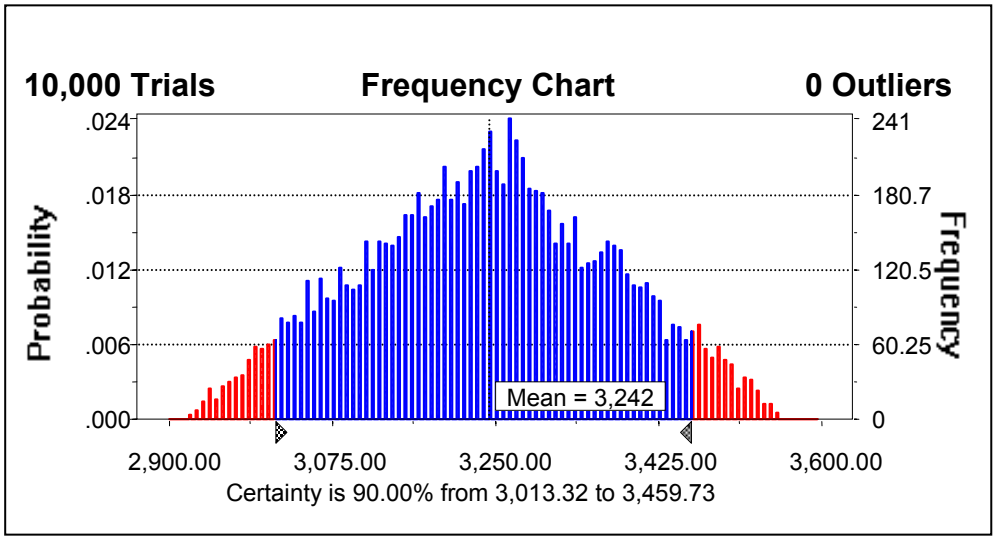
R= 100 contracts/month
T= min: 32.4; max: 39.6, most likely: 36 months
Source: Developed by the authors

Figure 6. Same Mean, Variability = 10%.



R = 100 contracts/month
T = min: 25.92, max/; 38.88 most likely: 32.4 months
Source: Developed by the authors

Figure 7. Reduce Mean 10%/Variability = 20%.



R = 100 contracts/month
T = min: 29.16, max: 35.4, most likely: 32.4 months
Source: Developed by the authors

Figure 8. Reduce Mean 10%/Variability = 10%.

Figure 6 (reducing the variability) shows the inventory level between 3,361 and 3,854 with a 90% certainty level while Figure 7 (reducing the mean) shows the inventory level between 2,791 and 3,683 contracts with a 90% certainty. A comparison of Figures 6 and 7 shows how a reduction in the mean turnaround time results in a greater decrease in the overall inventory level compared to reducing variability (given the inputted variables), however the variance remains approximately the same. Figure 8 demonstrates that the largest reduction in both inventory levels and variance occurs when the turnaround time variability and mean are reduced simultaneously. It is important to note that the variance is reduced as well as the inventory level because a lower variance leads to better forecasts and therefore to improved ability to plan and to allocate resources.

a. Queue Variability in the Contract Closeout System

The previous sub-section described how to calculate expected inventory levels and how variability in the system adversely impacts inventory levels. As Figure 4 illustrates, the largest inventory level occurs when both the arrival rate and turnaround time are dynamic, a state that exists in the contract closeout system. As previously mentioned, DoD has limited control over the arrival rate of contracts into a physically complete status. However, DoD does have control over the turnaround time; the time it takes to close a contract.

Our analysis concludes that variability in the turnaround time created the undesirable inventory level of physically completed contracts available for closeout. Within the contract closeout system there are two sources of turnaround time variability: process variability and queue variability. Process variability occurs because of the large amount of steps that must be accomplished to close a contract and the fact that each contract is unique. Queue variability exists because contract closeout is not a continuous process. A contract has the potential to wait in a closeout queue before and during each step in the closeout process. The queue introduces a high level of system variability, especially for cost-type contracts. In fact, a contract spends more time in the queue than

being actively closed for the majority of contracts in the current closeout system.[34] Therefore, it is our assessment that queue variability is the more significant root cause of the current inventory problem, not the process variability we have previously discussed. Minimizing the amount of time inventory spends in queues will have the greatest and most immediate impact on reducing the inventory backlog of overaged contracts.

Closeout process queues are caused by two factors: (1) the authority to accomplish all the closeout steps does not lie with one person, or even with one organization, and (2) contract closeout is usually not the stakeholders' sole responsibility. Arguably, contract closeout is very low on their priority list compared to other contractual actions, given limited time and resources.[35] The contract closeout process has multiple steps and multiple stakeholders responsible for the different steps. The different players may include the ACO, contractor, property administrator, lawyers, patent office, DFAS (both accounting and payment sections), DCAA, Procuring Contracting Officer (PCO), the user, and the user's comptroller. While not every player is involved with every closeout action, at a minimum, the ACO, contractor, DCAA, and DFAS are involved with closeout of cost-type contracts. The potential for a queue exists every time a request for action is passed from one individual/organization to another. Since closeout is usually not solely the responsibility of these individuals or organizations, and they have other actions competing for their resources, a queue also exists when an individual begins a closeout step but has to interrupt the process either due to a lack of information immediately available to finish the step or when another action with higher priority must be accomplished.

The effects that queue variability has on closeout inventory levels can be illustrated by discussing the queues that result from only one of the closeout steps, e.g. determining final indirect cost rates, otherwise known as final overhead rates. As shown in Chapter I, negotiation of final overhead rates is determined to be the number one

[34] Evidenced by the comparison of actual labor time in the process model vice the length of time it takes for contracts to clear from the MOCAS database. See Chapter I, "Current Process" of this report for a discussion of the existing process model.

[35] Interviews conducted with multiple DCMA offices and buying commands.

reason that prevents cost-type contracts from closing on time. After examining the queues involved in the following example, it is easy to see why. The example provided below on audits of final overhead rates was derived from interviews. It may not occur universally, but is occurring in some instances. The focus is solely on queue times. Chapter VI discusses other issues and our recommended solutions for determining final overhead rates.

After physical completion of a cost-type contract, a contractor has six months after the end of their fiscal year to submit their indirect cost rates to DCAA and the ACO.[36] For example, if a contract becomes physically complete in June 2000, and the contractor's fiscal year ends on 31 December of each year, the contractor has until June 2001 to submit their final indirect cost rates. Therefore, if everything is done according to regulation, from the Government's perspective, a queue of one year in a three-year process has already occurred.

DCAA operates on a "6/12/6" cycle for "major contractors" (over $80,000,000 of auditable dollar volume) and a "6/24/6" cycle for "Non-major contractors" (less than $80,000,000 auditable dollar volume).[37] The cycle is defined as the number of months the contractor has to submit indirect rates, the number of months DCAA has to audit the rates, and the number of months the ACO has to negotiate the rates.[38] To go back to our example, after receipt of final indirect cost rates in June of 2001, DCAA has until June 2002 to submit the audit report to the ACO if the contractor is a "Major," or June 2003 if the contractor is a "Non-Major". The queue now totals nearly two or three years in a three-year process, depending on the categorization of the contractor. (It should be noted that DCAA will conduct a priority audit and issue the report in a reduced timeframe at the request of the ACO).[39] While some of the queue time described is active work time used to actually conduct the audit or negotiate with the

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[36] FAR 52.216-7 (d) (2).

[37] Interview with DCAA San Diego, 03 April 2003. See Chapter VI for further discussion.

[38] Interview with DCAA San Diego, 03 April 2003.

[39] Ibid.

contractor, the vast majority of that time is waiting, or queue time, thus two to three years of active closeout process time has elapsed before the next sequential action in the process can be taken.

To further complicate the final indirect cost rate queue, time can be added if the contractor has subcontractors that require DCAA assist audits, and those subcontractors are considered "Non-Majors." An assist audit can occur for various reasons,[40] such as when the subcontractor does not allow the prime contractor to audit their books; therefore a DCAA audit is required.[41] In addition to the 6/24/6 cycle, DCAA also uses a risk approach for indirect rate audits of "Non-Majors." Low risk contractors (less than $10,000,000 auditable dollar volume per year and good past performance) are audited on a sample basis, with one third of the contractors in this category being selected for the yearly audit sample. This procedure ensures that the contractors in this population are audited at least once every three years.[42] However, due to this practice, if the prime has to rely on the assist audit before submitting their final rates, and the assist audit falls into the sample procedure, two to three years queue time can pass before the prime can even submit their final indirect rates[43]. An exception to this situation occurs if quick closeout rates can be used for the contract being closed. To relate this situation to our example, if the contract became physically complete in June 2000, and given the situation described above where the prime had to wait on an assist audit of a subcontractor, it may take until June 2003 for the prime to receive the results of the assist audit. They must then include these results in their indirect rate calculation for submission to the Government. Assuming the prime contractor immediately submitted its rates as soon as they received the assist audit results, DCAA then has another year to audit the prime – until June 2004. Four years have now passed since physical completion and the contract has fallen into the overaged category. Since the time to conduct the audit process takes

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[40] DCAA Contract Audit Manual 6-801.1 (e).

[41] Interview, SAIC, Corporate VP for Contract Closeout, for further information, refer to Chapter VI.

[42] DCAA Contract Audit Manual Chapter 6-104.

[43] Interview, SAIC, Corporate VP for Contract Closeout 01 April 2003.

only a portion of this time, and a maximum of 12 months, queue time variability is the major cause for the contract to become overaged due to final indirect cost rate settlement.

The situation described above, where the prime must wait on audit results of a subcontractor, and then wait for an audit of their own rates, is one of the major reasons provided during interviews to explain why contractors have not submitted their final voucher – the second highest statistical reason code cited in the MOCAS database explaining why cost contracts have not closed.[44]

b. Summary

The purpose of describing Little's Law was to demonstrate the affects of arrival rate and turnaround time on the inventory of physically completed contracts. However, the equation only shows these effects on a static system. Simulations were run to illustrate the effects of a dynamic system, the true state that exists in contract closeout. The first three Monte Carlo simulations illustrated the effects of variability on inventory levels, with variability in the arrival rate and turnaround time (Figure 5) producing the largest inventory level and largest variance. The last three simulations demonstrated the affects of reducing the turnaround time mean and variability. Using Little's Law and simulated variability as tools, it was demonstrated that simultaneously reducing the turnaround time mean and variability has the effect of both reducing the overall inventory level and the variance in that inventory level (Figure 8). Since we are assuming that DoD has little control over the arrival rate in the closeout system, short of awarding fewer contracts, lack of control in the variability in the turnaround time was assessed as being the source of the current undesirable inventory level. Turnaround time has two sources of variability: process variability and queue variability. Comparing the time involved with both sources of variability, it was determined that queue variability is the root cause of the problem, not process variability. This point was illustrated using the example of queue variability in the indirect cost rate settlement.

[44] Reference Appendix C for MOCAS Statistics.

The next section describes how to reduce the mean and variability in the turnaround time queues, which is the fundamental/long-term solution to preventing future backlogs. It follows the same format as above, first generically describing the tools and concepts used, and then specifically applying them to the root cause of queue variability to arrive at a recommended course of action.

2. Using Organizational Systems Models to Identify Solutions to Reduce Mean Turnaround Time and Variability

a. Symptomatic Solutions Versus Fundamental Solutions

In his book *The Fifth Discipline*, Peter Senge describes systems thinking as, "a framework for seeing interrelationships rather than things, seeing patterns of change rather than static snapshots,"[45] and seeing the underlying structures that control events rather than focusing on the events themselves.[46] Senge advocates using system archetypes to promote systems thinking. System archetypes are tools that can be used to address management challenges within organizational systems. They are also tools to help tackle the problems caused by the high complexity in today's organizational environment. System archetypes promote systems thinking by helping stakeholders identify the underlying structures and patterns of events in the system, and identify the leverage within the system to effect change towards a desired outcome.[47]

Senge's "Shifting the Burden" archetype, displayed in Figure 9 can be used to understand the systemic problem of closing contracts and to help develop optimal solutions to solve the problem. The "Shifting the Burden" archetype has a structure composed of two balancing, or stabilizing, processes. The top circle represents the symptomatic solutions to the problem while the bottom circle represents the fundamental solutions.[48]

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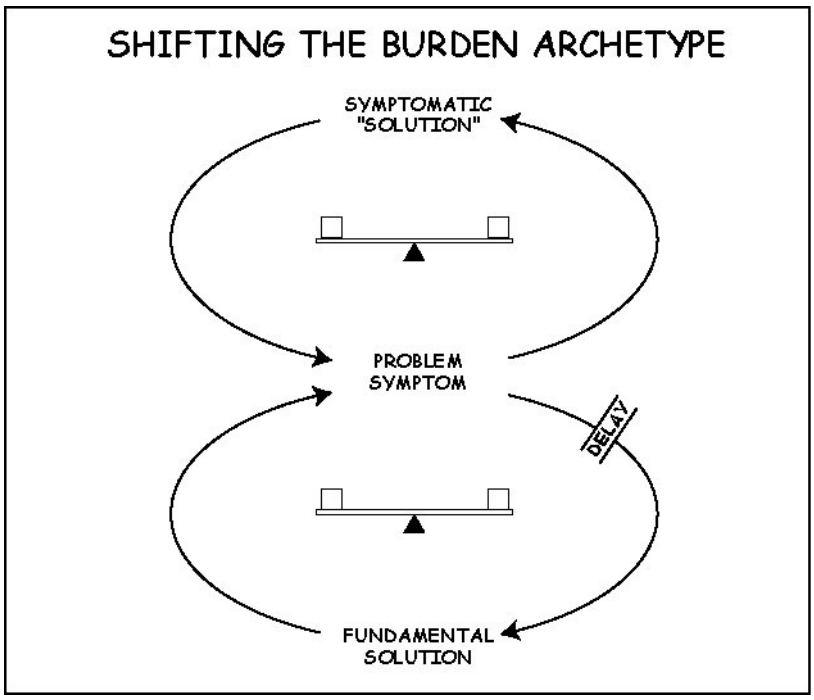
[45] Senge, Peter M., The Fifth Discipline, The Art & Practice of The Learning Organization, p. 68.

[46] Ibid., p. 93.

[47] Ibid., p. 95.

[48] Ibid., p. 106.



Source: Senge, Peter M., The Fifth Discipline, The Art & Practice of The Learning Organization, p. 106

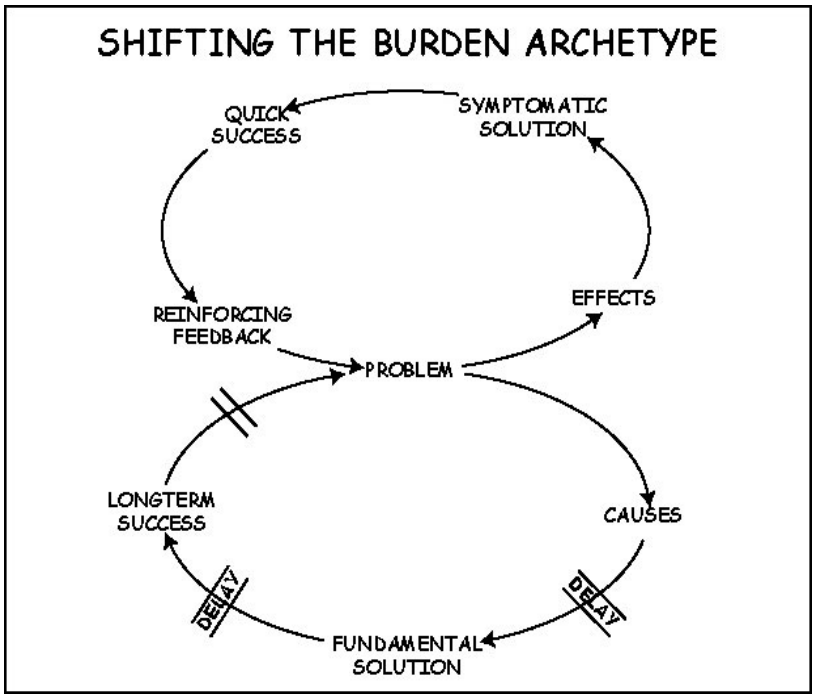
Figure 9. Senge's "Shifting the Burden" Archetype.

Seen in its true form, the symptomatic solutions are only a quick fix (reference Figure 10), although the implementers of these solutions are often not aware of this fact. Symptomatic solutions often give quick results, which further reinforces the behavior and thought pattern, and relieves the pressures to find the fundamental solution. However, in the end, these results only temporarily resolve the problem.[49] The symptomatic solutions are often developed and implemented to address the *effects* of the problem because the focus is on the *events* themselves. These effects/events are often the most visible and immediate issues at hand. Therefore, it is easy to misinterpret the symptomatic solutions as the long-term fix.[50]

[49] Ibid., p. 107.

[50] Ibid., p. 106.

In Figure 10, the bottom circle represents a more fundamental solution to the problem, the solution that is ultimately the most effective. However, due to the fact that the cause and effect may not be closely related in time and space (notice that these two elements of the problem are not on the same circle), and due to the delay in results, the fundamental solution takes longer to become evident. The fundamental solution is more effective because it addresses the *cause(s)* of the problem, the *underlying structures and patterns* that control the events/effects.[51]



Source: Adaptation of Senge's Shifting the Burden Archetype, modified by the authors

Figure 10. "Shifting the Burden" Archetype Cause and Effects.

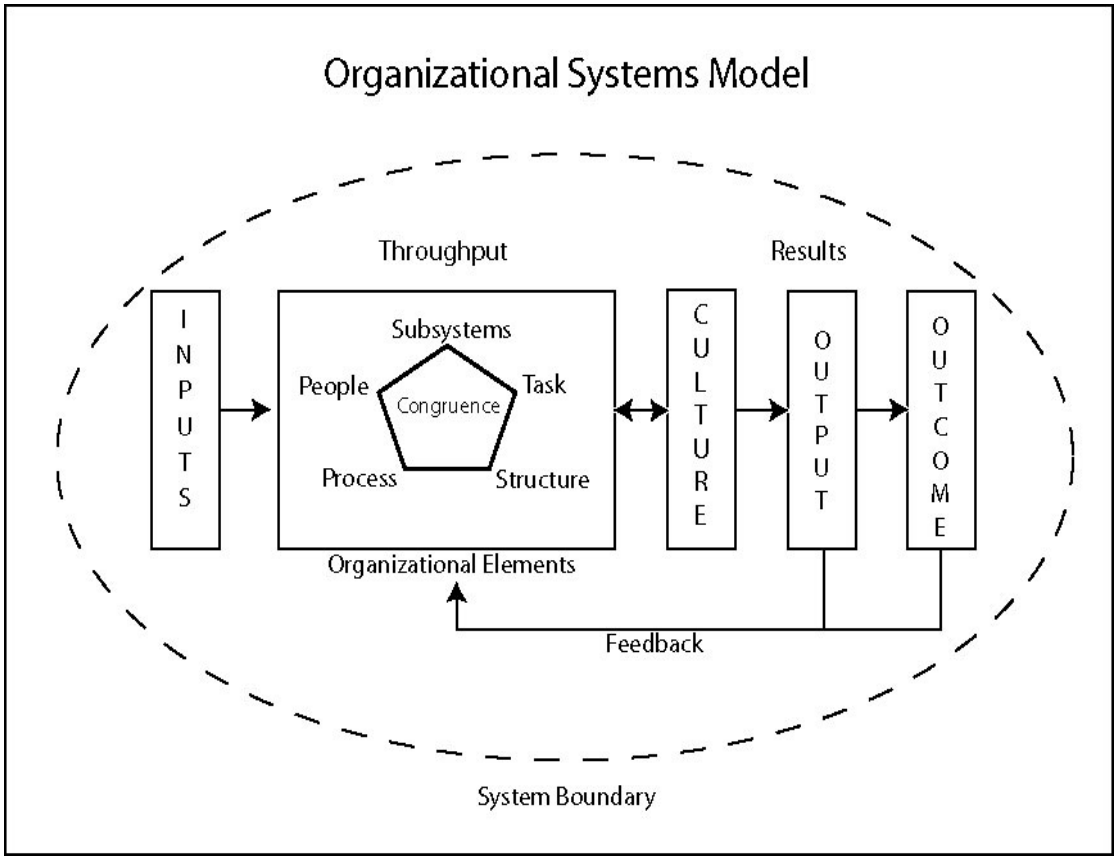
It is important to note that symptomatic solutions are not necessarily bad. Short-term fixes have benefits. The danger lies in not seeing these solutions for what they are, merely quick fixes, or misinterpreting the short-term fix as the fundamental solution. In reality, consciously implementing both symptomatic solutions and fundamental solutions simultaneously is a way to attack the systemic problem from both

[51] Ibid., p. 106.

directions, gaining both quick results and long-term success. Furthermore, implementing the symptomatic solution offers a chance for a quick success, an element often necessary for a long-term successful change effort. If the fundamental solution is implemented alone, this important change step may be missed.

b. Open System Models and Multidimensional Archetypes

Organizational theorists often use open system models to illustrate the dimensional elements of an organization. An example of this type of model is illustrated in Figure 11.



Source: Modification of the McClasky-Hill model, tailored by Nancy Roberts, and the Cummings-Worely Models For Diagnosing Organizational Systems. Model customized by the authors.

Figure 11. Open Systems Model.

There are dozens of different models used to diagram organizations and each of them demonstrates slightly different organizational elements. In Figure 11,

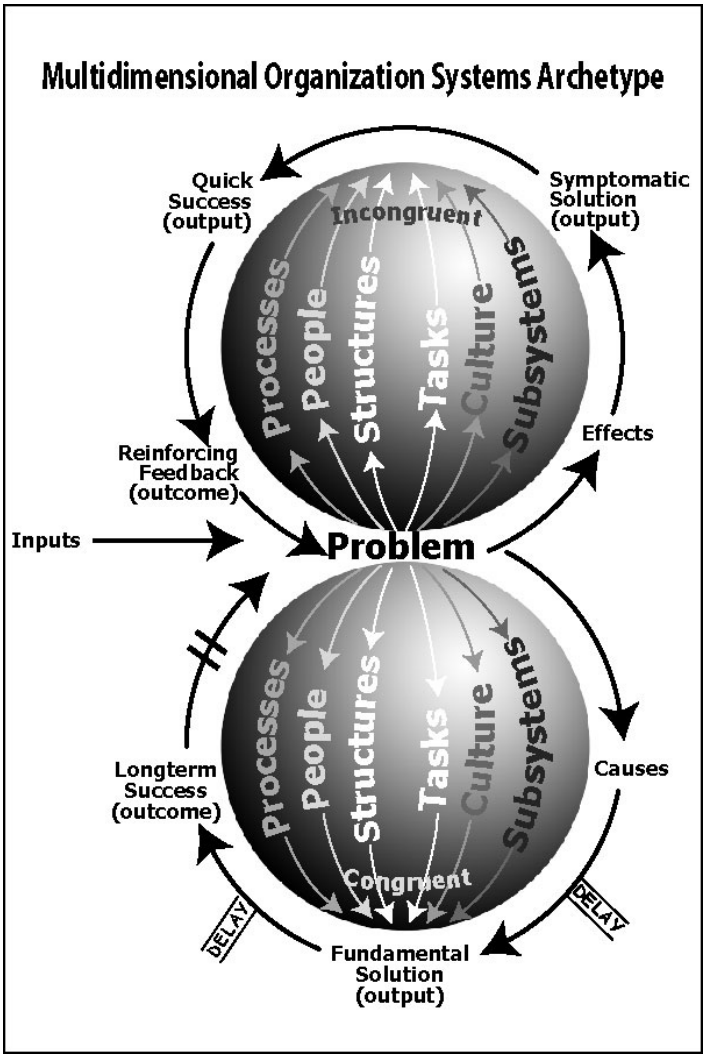
several transformational elements commonly found in many models are illustrated, including subsystems, people, processes, structure, tasks, and culture. The system boundary is the interface with other systems and the environment, illustrating how the environment affects organizational elements.

The purpose of these organizational models is to graphically illustrate the interrelationship of the different organizational elements and to provide a tool to diagnose how these elements interact within the situation or organization being analyzed. It is also a tool to demonstrate that none of the organizational elements act in a vacuum. A change in one element affects other facets of the organization. Furthermore, if any of the elements are incongruent, the cause of a problem, and the resulting fundamental solution, may be found in this problematic interaction.

The model illustrated in Figure 12, shows a multidimensional archetype. It is essentially a morph of Senge's "Shifting the Burden" archetype and the Open Systems Organizational Model illustrated in Figure 11. Senge's "Shifting the Burden" archetype, as illustrated in the previous sub-section, has only one dimension. This one-dimensional graphic may unintentionally mislead unseasoned archetype users that there is one element relating to the problem, one cause/effect, or one event/pattern. However, there can be multiple dimensions to archetypes.[52] In other words, there can be more than one organizational element involved in the cause and effect dynamics stemming from the problem, and changing one element will affect other elements. Viewed in this light, the ovals in the illustrations of Senge's "Shifting the Burden" archetype become spheres. The surface of the sphere is the third dimension and becomes the plain to analyze organizational elements. Analyzed alone, each element exhibits the characteristics of the one-dimensional graphic of the archetype. However, viewed together, as in the multidimensional archetype, it can be visualized that in reality, the cause/effects, events/patterns, and symptomatic and fundamental solutions may lie in more than one organizational element, or in their interaction with one another (their congruence). Furthermore, the model illustrates that one element may be leveraged for quick success

[52] Professor Leslie Sekerka, Ph.D., Naval Postgraduate School, 20 March 2003.

(the top sphere), while another element may need to be leveraged for the long-term success (bottom sphere). The challenge then becomes not only correctly identifying symptomatic solutions from fundamental solutions/ events from patterns, but also correctly identifying which organizational element(s) are interacting in the dynamics of the problem, analyzing congruence, and determining which element(s) to leverage to achieve the desired outputs and outcomes – not an easy task.



Source: Developed by George Holland, coauthor of this report.
Adaptation of Senge's "Shifting the Burden Archetype"

Figure 12. Multidimensional Organization Systems Archetype.

For example, using the multidimensional archetype, it becomes evident that in one dimension, there might be *task* related cause and effects at play and on another dimension there might be a *subsystem* cause and effects in action. Or, the *task* and *subsystem* elements may be incongruent, causing the problem. Furthermore, analysis may conclude that leveraging the *task* element may produce one output (e.g. quick success – not necessarily a bad output if the implementer is consciously aware that it is symptomatic and will produce a reinforcing feedback), while leveraging the *subsystem* element may produce another output (e.g., fundamental solutions leading to the desired outcome and long-term success). Or, analysis may reveal that both subsystems may need to be leveraged in conjunction with each other to produce the desired outputs/outcomes. During the focus task and subsystems, analysis must also be conducted to see how changing either will affect the other organizational elements.

If there is more than one elemental dimension to the problem, fundamental solutions must be found for all of the "causes" before the long-term successes are realized. Likewise, the long-term benefits will not be realized until the organizational elements are congruent and their interactions promote positive results in the system.

c. "Shifting the Burden" Archetype and Contract Closeout

There are three indications of the presence of a shifting the burden structure. First, there is a problem that gets gradually worse over a long period of time – although every so often the problem seems to get better for a while. Second, the overall health of the system gradually worsens. Third, there is a growing feeling of helplessness or a feeling of being overwhelmed.[53]

The contract closeout dilemma exhibits these three indicators. First, the problem has gradually gotten worse over time. A backlog of overaged physically completed contracts is not a new problem, however, the fundamental solution has not been found. In fact, our research shows many studies being conducted on this "problem" throughout the decade of the 90's. There have been no less than ten DoD Inspector General studies and reports generated on the issue or related issues, two DoD level

[53] Senge, p. 112.

Process Action Team (PAT)/Integrated Process Team (IPT) studies/reports, one Service level IPT study/report, one Defense Contract Management Command (DCMC) study/report, several General Accounting Office studies/reports on related issues, and five masters thesis research efforts.[54] Second, the overall health of the system has gradually worsened. It is fair to say that a backlog of 50,000 Navy contracts is an indicator of a sick system. This backlog has grown over time, despite Herculean efforts to reduce it. In fact, there was a mandate to eliminate the backlog by 30 September 2002 to enable a transition to a new information technology (IT) based payment system (DPPS),[55] a mandate that has not been met to date. By implementing the solutions to the studies mentioned above, short-term reductions in the inventory of overaged contracts occurred frequently over the past years. However, the inflow of new contracts into the inventory often destroyed the hard fought reductions. This has led to frustrations and feelings that the problem is overwhelming, the third indication of the shifting the burden archetype.

One hypothesis as to why the problem has not been solved is that the solutions suggested by the studies/reports mentioned above are symptomatic solutions; that the focus was on the effect – an undesirable inventory of physically completed contracts. No doubt the people that participated in these studies were smart people, with in-depth knowledge of the problem. Likewise, it is fair to say that at least some of the recommendations made by these reports were successfully implemented. However, the problem still exists!

A common theme among the studies/reports is that the solution(s) reside in changing/improving/streamlining the process. Indeed this thought still prevails. Transforming the process is the focus of the current leadership.[56] Recall that there are two sources of variability in the turnaround time – process variability and queue variability. By focusing solely on changing the process and ignoring the other

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[54] Reference Appendix D, Previous Reports.

[55] DCMA Memorandum, Subject: Mechanization of Contract Administration Services (MOCAS) System Contract Closeout Initiative, 25 April 2000.

[56] Federal Register: 24 September 2002 (Volume 67, Number 185), FAR Council request for comments to facilitate timely contract closeout.

organizational elements, only sources of process variability are addressed, the queue variability factor embedded in turnaround time variable is ignored.

This situation is a classic example of how the symptomatic solution within the "Shifting the Burden" archetype works. Since the process to close contracts is seen as the cause of the problem, numerous attempts have been made to improve it. The change efforts resulted in a short-term reduction in the backlog, which led to an improved outlook for the future. These short-term successes created a positive feedback that reinforced the thinking that streamlining the process is the solution to the backlog dilemma. Since the process, and by association - variability in the process turnaround time, is seen as the cause, the cycle to fix it begins anew when the long-term benefit is not realized.

A second common "cause" of the problem identified by the previously mentioned studies is that contract closeout is/was a low priority for both the Administrative Contracting Officers (ACOs) and their management.[57] The symptomatic solution to this "cause" is to increase management emphasis, which has the effect of decreasing queue turnaround time variability. This again resulted in reductions in the backlog; however, these reductions again have proven to be short-term because no permanent fix to the queue variability is implemented. This claim is supported because the problem still exists, as exhibited by the fact that the backlog is not being systematically eliminated, despite the increased emphasis on contract closeout. Again, the reinforcing feedback of the symptomatic solutions is in play. The leadership sees a reduction in the backlog as a result of their increased emphasis. Other problems then become more pressing and their emphasis is placed on other issues.[58] Time passes and when the backlog reduction is diminished by an inflow of new contracts into the inventory, the frustration level rises, more management emphasis is given, and thus the

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[57] Valovcin, James, *"Streamlining the Contract Closeout Process"*, Masters Thesis, Naval Postgraduate School, Monterey, California, December 1995.

[58] Interview DCMA San Diego, 03 April 2003, "Closeout Priority Changes with Leadership Focus."

cycle begins anew. Unfortunately, pushing harder on symptomatic solutions does not produce the desired long-term outcomes.[59]

Using the multidimensional archetype, which integrates the elements of the organization systems model with the "Shifting the Burden" archetype, our analysis concludes that by concentrating mainly on the closeout process, and by association - turnaround time process variability, the teams conducting the contract closeout studies overlooked the other organizational elements that are interacting in the closeout system dynamics. Furthermore, we concluded that the solutions proposed only leveraged the *process* elements to produce a short-term success (the top sphere). We propose that the root cause of the backlog, variability in the turnaround time queue, lies mainly in the organizational *structure* and *culture* elements, not the *process* element. Certainly there are efficiencies to be gained by further improving the closeout process. However, in our opinion, looking to *process* changes will not prevent future backlogs – the long-term outcome sought. Therefore, if the root cause is variability in the queue, the organizational *structure* and *culture* elements need to be leveraged to reduce the queue variability and mean turnaround time.

d. Culture

Our belief is that the organizational culture elemental "cause" is the incentive system. Our initial conclusion was that the lack of incentives for DCMA to close contracts was the cause. In addition to DCMA, there are many stakeholders that have closeout actions within the system, however since DCMA is responsible for the vast majority of closeout actions, it will be the focus of this analysis. Closing contracts costs DCMA resources. Furthermore, DCMA does not appear to benefit directly by closing contracts quickly. From the funding perspective, the money that is deobligated from these closed contracts goes back to DCMA's customer or the treasury. Therefore, since DCMA expends resources without realizing any significant benefit,[60] we concluded that even though it is one of DCMA's responsibilities, relevant incentives did not exist for

[59] Senge, p. 61.

[60] Interview with DCMA San Diego, 03 April 2003. "Customer satisfaction is a benefit, however, contract closeout is also a low priority of DCMA's customers compared to other actions."

DCMA to close contracts. Hence the resulting backlog despite the efficiencies gained by changing/streamlining the process throughout the 1990s. In an attempt to "think out of the box" we explored ideas on how to incentivize DCMA. These ideas included allowing DCMA to keep a portion of the deobligated money, penalizing DCMA for allowing funds to lapse by making them pay the financial liabilities on overaged contracts requiring current year funding, and/or funding the DCMA contract closeout effort through the use of a working capital fund (similar to the way the Department of Energy funds contract closeout).[61] The first proposal would incentivize DCMA by providing a monetary benefit to closing contracts. The second would provide a negative incentive to allowing physically completed contracts to become overaged. The third would not necessarily provide incentives, but at least it would reduce the resource cost that DCMA requires to conduct contract closeout. However, all of these ideas require significant changes to the DoD funding structure and/or current appropriation law. Therefore, we concluded that, while these ideas could provide a fundamental solution, they were unrealistic in the current environment.

Continuing in our efforts to find a fundamental solution to the cultural "cause" to the contract closeout problem, we analyzed the incentive structure within DCMA, at the personnel level rather than the organizational level. We again found that the incentive structure was not congruent with the desired outcome of closing contracts in a timely manner given the current resources of time and personnel. This is illustrated by the fact that contract closeout was not listed on interviewees' performance objectives. ACOs at DCMA manage three populations of contracts. In order of importance, these populations are (1) current active contracts, (2) contracts pending award, and (3) physically completed contracts. It is natural that given limited resources and time, the focus of the ACOs is on active contracts first, followed by pending contracts.[62] It is in these populations of contracts that DCMA "earns their money." Furthermore, it is logical that the ACO performance objectives (the incentive structure) are strongly tied to these

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[61] Department of Energy Working Capital Fund, Contract Closeout Business Line Draft Fiscal Year 2001-2005 Plan, 29 March 2001.

[62] Interview, Closeout Supervisor, FISC San Diego, California, 02 April 2003.

important populations of contracts. In a constrained environment of limited resources and personnel, these priorities are justified. Therefore, since the incentives/performance objectives are correctly aligned for this population, instead of changing the ACO's incentives, the fundamental solution might lie in devoting permanent organizational resources to contract closeout. These organizational resources (personnel) should be directly incentivized to close contracts by making contract closeout their top priority. In other words, closing contracts is their job, and contract closeout would be first on their list of performance objectives.

The possible options for realigning DCMA's (or any contract management office) structure to better address contract closeout include the following five options:

(1) Do nothing. This option retains the status quo. The advantage to this option is that it does not require the expenditure of any additional resources or any restructuring initiatives. However, it offers little in the way of fundamentally improving the system, and does not change the incentive structure. It is unlikely that this option will significantly change the rate at which contracts are closed. Furthermore, the inventory of physically completed contracts will likely grow in the future after management attention is turned to other issues. This would occur because of the ACO's workload and the priority of actions necessary to administer a contract.

(2) Assign a permanent contract specialist within every ACO team as the lead for contract closeout. This individual would perform contract closeout functions for the entire team and would be able to draw on the experience and expertise of the team to address problems involved with the specific contracts that the team administers. This concept has merit, the greatest being the fact that the personnel and the ACO most familiar with the specific contracts and contractors will still be responsible for closing the contracts. However, there are several disadvantages. ACO teams will be loath to lose one of their members to the closeout function since the remaining workload will have to be divided amongst the remainder of the team. The potential also exists to divert the specialist away from closeout duties to perform "higher priority" administrative tasks. Furthermore, contract closeout will rightfully continue to be lower on the ACO's priority,

falling behind active and pre-award contracts. In reality, the incentive structure changes very little under this option.

(3) Create a "Contract Closeout Officer," similar in concept to the Termination Contracting Officer (TCO). Conceptually, these individuals would be assigned a team and would travel between DCMA offices within the region to complete contract closeout actions, similar to a permanent "tiger team." If this team was given the resources and authority to close contracts, it could be very effective, eliminating much of the queue time as well and reducing the mean processing time, since they are directly incentivized to close contracts. Similar to the TCO team, this contract closeout team would also become experts in the contract closeout function. However, since contract closeout occurs far more often than terminations, the number of personnel on such a team, or the number of teams required per region would likely be quite large, otherwise the workload would overwhelm the team and the rate of contract closeout might actually decrease. There is also a cost to implementing this team. Furthermore, the potential exists for ACOs to leave unresolved problems for the contract closeout team that they might otherwise resolve if responsible for closeout.

(4) Create a permanent contract closeout team within each DCMA. This is our recommended solution and will be discussed in detail in the following section titled "Structure."

(5) Outsource the majority of closeout functions to a contractor. The main advantage to this option is the reduction of workload for each contract administration office, allowing personnel to concentrate on higher priority tasks. Furthermore, since the contractor would be paid for the function, they would be incentivized. Although this concept may have some merit, and is being successfully implemented by some organizations, there are several tasks that are inherently Governmental, such as approving additional funds and making final determinations. As such, the Government must maintain some functions. There are additional problems such as contractors' willingness to have their proprietary financial data exposed to a non-Governmental third party.

Given these options, establishing a dedicated multifunctional closeout team at each DCMA, discussed in the next section, seems to offer the greatest overall benefit to the organization because it creates greater unity of effort between the responsible organizations while still maintaining a meaningful incentive structure.

e. Structure

While culture and incentives play a role, as discussed in the previous paragraphs, organizational structure is the main cause of the queue variability. Recall that turnaround time queues are caused by two factors: (1) the authority to accomplish all the closeout steps does not lie with one person, or even with one organization, and (2) contract closeout is usually not the key players' only responsibility; arguably, it is low on their priority list compared to other contractual actions given limited time and resources. Since there are multiple people/organizations responsible for closeout, the potential for a queue exists every time a request for action is passed from one individual/organization to another. Since closeout is usually not these individuals' or organizations' only responsibility, and they have other actions competing for their resources, a queue also exists when an individual begins a closeout step but has to interrupt the process either due to a lack of information immediately available to finish the step, or when another action with higher priority must be accomplished.

Creating a permanent multifunctional contract closeout team (option four in the previous section) addresses both the organizational *structure* elements and *culture* elements. By multifunctional, we mean that the team should include personnel from all stakeholder groups. Furthermore, each team should be vested with the authority to complete the closeout process without having to go for approval outside the team. This means that the team should include an ACO, a matrixed auditor from DCAA, a property administrator, and a matrixed DFAS representative to conduct reconciliation and payment functions.

This is a viable fundamental solution because a permanent multifunctional team should reduce the queue variability and mean turnaround time. Consider the two factors explained above that cause the queue. A multifunctional team eliminates

variability caused by the first factor because nearly all of the closeout steps will be vested in one person – the closeout team leader, and all of the needed resources will be in that person's control for the vast majority of contracts that reside in MOCAS CAR Section 2. (Exceptions include process steps where a PCO must make a determination on property, although that could be delegated to the ACO lead in many cases. Other exceptions would include a legal review for patents or royalties). To optimize effectiveness, each team should have the vested authority to accomplish the majority of the closeout steps, including contract administration authority, property disposition authority, audit authority, and payment authority. By centralizing as many of the closeout functions as possible into a single team, queue variability can be attacked head-on. A multifunctional team also eliminates variability caused by the second factor because closeout will be the team's primary responsibility. Other contractual actions with higher priority will not interfere with the closeout action. In addition to reducing variability in the queue, a multifunctional team will also reduce the mean turnaround time. By having permanent resources devoted to the process, the average turnaround time will be lower than the turnaround time of a process with temporary resources.[63] Recall the results illustrated in Figure 6. Reduction in both the mean and variation of turnaround time has the greatest affect on reducing both variation in the inventory and the inventory levels.

Unlike the funding ideas discussed above, this solution is realistic. Indeed, closeout teams are often temporarily formed within a DCMA location when management "places emphasis" on contract closeout. These "tiger teams" have proven to work. However, when the backlog is reduced to a manageable level, the effort is deemed successful, the team is disbanded, and the team members go back to their normal jobs with an emphasis on current and pending contracts.[64]

Several organizations we interviewed have implemented permanent closeout teams, including the Space and Naval Warfare Systems Command (SPAWAR), Fleet and Industrial Supply Center (FISC) San Diego, and Science Application

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[63] Ibid.

[64] Interview, ACO Team Leader, DCMA Lockheed Martin, Sunnyvale, California, 30 January 2003.

International Corporation (SAIC). All three of these organizations related experiences that demonstrated that the permanent teams result in long-term reduction in the contract closeout inventory level, although further strides could have been made if they had consistent access to auditors and payment specialists.

During our interview with the SAIC Corporate Vice President for Contract Closeouts and the company's in-plant ACO, the pair related their experience during the period of concentrated effort to close contracts for the pending transition to DPPS. After notification of the priority on closeout and prior to the formation of a permanent closeout team, the contractor had only closed relatively few of several hundred eligible contracts in a six-month period. However, after the team was implemented, working together, SAIC and the DCMA only missed the rigorous closeout goals of reducing their backlog by 50%, as set out by DCMA Headquarters, by one contract. This was rightfully a source of pride for both interviewees.[65]

FISC San Diego, an organization that administers the majority of its contracts outside of the purview of DCMA, detailed their experience that successes in contract closeout did not come until a permanent team was established. In 1997, the Command assigned only one person as the Termination Contracting Officer and contract closeout administrator. This lone person was not able to keep up with the workload. When the Command switched to the Standard Procurement System, the contract closeout function reverted to the FISC ACOs. However, massive inventories of physically completed contracts soon developed. In October 2002, the Command formed a seven-person closeout team, four being support contractor personnel. The supervisor responsible for this function was emphatic in her belief that they were more successful in closing contracts with the permanent team rather than leaving the function solely in the hands of the FISC ACOs.[66] Their successes spanned the breadth of contracts managed both in-house and through DCMA.

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[65] Interview, SAIC, Corporate VP for Contract Closeout 01 April 2003.

[66] Interview, Closeout Supervisor, FISC San Diego, California, 02 April 2003.

SPAWAR related their experience using an "8(a)" support contractor for processing contract closeout actions. The Command said they had the function contracted for years and that they have steadily drawn down the number of contracts in their backlog and noted particular success in eliminating overaged contracts.[67]

DCMA Manassas, reputed as the "Contract-Closeout Capital" has also employed the team approach, but taking it a step further by partnering with DCAA and DFAS.[68] Using a risk-based approach on difficult contracts, the Command "goes after them (the contracts) in groups, …(and) goes after them as a team. We all come together with DCAA, DFAS, the contract operation folks at both District East and Headquarters, the legal folks, and then approach the contractor."[69] Quoting the commander, "We average between 700 and 1,100 contract closeouts a month (and) get from 300 to 700 new contracts a month, so keeping a downward slope on my balance sheet is important."[70] DCMA Headquarters established a Contract Closeout Task Force with its first assignment to support DCMA Manassas. The task force consists of seven individuals from CMOs across East District, assigned at Manassas for 90 days, each closing contracts.[71] This "tiger team" approach proved to be a great success in the short-term, although permanently assigned personnel would likely have been able to make an even greater impact since their time at each DCMA would not be so limited.

The true success of these organizations is not rooted in their simultaneous reduction of both the mean process time and the reduction of the mean queue time. Strict enforcement of established time standards and concentrated resources are proven to reduce turnaround times, resulting in both reduced backlogs and prevention of future backlogs.

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67 Interview, SPAWAR, COTR for Brace Corp. Closeout and Administration Contract, 01 April 2003.

68 Defense Contract Management Agency, *DCMA Manassas Reputed as the 'Contract Close-out Capital,' This CMO Is So Much More*, 04 February 2003, p. 1.

69 Ibid., p. 2.

70 Ibid., p. 3.

71 Ibid., p. 1.

f. Advantages and Disadvantages

While there are advantages and disadvantages to this integrated team approach to contract closeout, we feel that the advantages outweigh the disadvantages because this solution will produce the long-term outcome of getting contracts closed in a timely manner.

One of the staunchest arguments against this solution is that the ACO that managed the contract, the person that has the most knowledge of the contract, is the most logical person to close the contract.[72] In fact, the ACO would have intimate knowledge of both the contractor's procedures, payment terms incorporated into the contract, issues regarding payment reconciliation, and problem areas such as delays in property disposition and royalties or patents. However, it is important to remember that after the contract is physically complete, the ACO's attention is justifiably turned towards his/her other active contracts and the other 69 contract administration tasks assigned in the FAR. Closing the contract becomes an item on the ACO's list of tasks, but it is likely far from the highest priority item. This is the current thought, organizational structure, and current procedure, but it has not prevented or reduced the backlog.

Another disadvantage discussed was the possibility that ACOs will not resolve problems in administration as they arise, that they will "throw the problem over the wall to the closeout team."[73] For example, complicated property disposition issues may not be properly addressed by the ACO, who is already time-limited due to workload, preferring instead to allow the contract closeout team to resolve the outstanding problems. Professional courtesy and management oversight would hopefully prevent this from occurring. It is critical in any management process to hold personnel accountable for their actions and such dereliction of duty should certainly be dealt with if it arises.

A third disadvantage to the team concept was the idea that such positions would be undesirable and difficult to fill.[74] Incentives tied to team production could

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[72] Interview, SUPSHIP San Diego Contracts Division, 02 April 2003.

[73] Interview, ACOs at DCMA San Diego, California, 03 April 2003.

[74] Ibid.

certainly address this issue. If an organization is willing to put greater focus on closeout, then it must better align its reward and incentive system to do just that.

Other disadvantages include issues such as cross-training and job rotation, not only for the ACOs assigned, but also for the matrixed satellite assignment of team members from other organizations. In addition, the contractor and the PCO are not part of this cross-functional team and, as such, some of the queue variability will remain. Advanced delegation of authority from PCOs regarding closeout decision-making and close coordination with contractors will aid in mitigating some of the variability, but it cannot be eliminated in its entirety.

A final disadvantage might be cost. There is a cost to establishing permanent teams, taking resources from the current organizational assets and diverting them to the new team, or obtaining additional personnel.

The main advantage to the team concept was already described as reductions in the queue variability and mean turnaround time. Another advantage to having a permanent contract closeout staff is that they become in-house experts. One of the complaints of an ACO that we interviewed is that the tiger team personnel loose their knowledge of the contract closeout process once the team is disbanded.[75] Therefore, the command loses its corporate knowledge on the intricacies of contract closeout. Forming a permanent contract closeout section can eliminate this loss of knowledge.

Since the personnel in the contract closeout section would ideally be located in the same office as the ACO who administered the contract, any questions that arise about how the contract was administered can be easily answered by the ACO. Likewise, if the closeout team and the ACO teams fall under the same leadership, then this leader can resolve issues of "throwing problems over the wall." In many other instances, simply placing payment personnel and administrative personnel in the same room could lead to far greater understanding of payment problems and a clearer approach to resolving reconciliation issues.

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[75] Interview, ACO Team Leader, DCMA Lockheed Martin, Sunnyvale, California, 30 January 2003.

It is common knowledge that some commands have formed both short-term and long-term contract closeout teams. While some of these teams have been successful, some have not. The unsuccessful efforts of some commands can be traced back to the culture and incentives surrounding contract closeout. Because contract closeout has little perceived benefit compared to other contractual actions, the lowest level of employee, such as interns, or the wrong type of employees are often assigned to the closeout section.[76] If the least experienced personnel or personnel in the wrong specialty are given the responsibility, with little management attention, and little authority to actually close the contract, the section fails in their task. Therefore, if commands adopt this recommendation to change their structure, they should be aware of this cultural phenomenon and ensure experienced personnel with the requisite skills and motivation are assigned to the section. The section must also be integrated into the overall organization and treated as an important part of the DCMA team.

B. DEVELOPING AN OPTIMAL SOLUTION BY INTEGRATING SYMPTOMATIC AND FUNDAMENTAL SOLUTIONS

As previously mentioned, symptomatic solutions are not necessarily bad. Short-term fixes have benefits. Consciously implementing both symptomatic solutions and fundamental solutions simultaneously are the best way to attack the systemic problem from both directions to create the optimal solution. The other recommendations proposed by our group, batch processing, and improvements in the process are symptomatic solutions. Batch processing provides a quick way to reduce the backlog. Likewise, efficiencies can be gained by improving the process. But, by integrating these two *process* solutions with the fundamental solution of organizational *structure* changes, the optimal solution - to both quickly eliminate the backlog and ensure a backlog does not develop in the future – is realized. Referring back to the multidimensional archetype, this optimal solution is achieved by leveraging the *process* organizational element on the top sphere and the *structure* and *culture* organizational elements on the bottom sphere. This optimal solution also creates the quick success needed to sustain a long-term change effort.

[76] Interview, ACOs at DCMA San Diego, California, 03 April 2003.

C. RECOMMENDATIONS AND CONCLUSION

In order to achieve the long-term outcome of eliminating future backlogs of overaged contracts, we recommend that contracting organizations that manage high volumes of contracts include multifunctional contract closeout sections in their organizational structure. To optimize effectiveness, each team should have the vested authority to accomplish the majority of the closeout steps, including contract administration authority, property disposition authority, audit authority, and payment authority. Organizations that manage low volumes of contracts can benefit from this concept by establishing the closeout team on a regional basis. If Government personnel resources are unavailable, these closeout teams can be staffed with a combination of Government and contractor personnel, similar to the processes used by SPAWAR and FISC San Diego. While we feel this is the best organizational option of the five discussed in this chapter, our recommendation centers on the need to devote permanent organizational resources to the contract closeout function. The backlog of physically completed contracts can at least partially be attributed to the lack of permanent personnel detailed to this necessary output. Therefore, at a minimum, we recommend that DCMA (and other contract management organizations) prototype the five organizational options presented, (1) status quo, (2) permanent specialist within each ACO team assigned to the contract closeout function, (3) a Contract Closeout Officer similar to the TCO concept, (4) create a permanent closeout team within each DCMA, and (5) contract the function to a commercial firm, compare the average turnaround time, and variance in TAT from each organizational option, and choose the best option for implementing permanent organizational change.

The following quote from a DoDIG Report emphasizes the fact that the current contract workload requirement contributes to the variability found in the contract closeout turnaround time queues.

> DoD reduced its acquisition workforce from 460,516 to 230,556 personnel, about 50 percent, from the end of FY 1990 to the end of FY 1999; however, the workload has not been reduced proportionately. From FY 1990 through FY 1999, the value of DoD procurement actions decreased from about $144.7 billion to about $139.8 billion, about 3

percent, while the number of procurement actions increased from about 13.2 million to about 14.8 million, about 12 percent. The greatest amount of work for acquisition personnel occurs on contracting actions over $100,000, and the annual number of those actions increased from 97,948 to 125,692, about 28 percent, from FY 1990 to FY 1999. The following impacts from acquisition workforce reductions were identified: increased backlog in closing out completed contracts.…[77]

Defense Finance and Accounting Service accounting data showed that the number and obligation value of the open DoD contracts in the Mechanization of Contract Administration Services increased up to FY 1998 and declined slightly in FYs 1999 and 2000, as shown in Table 8. As of January 31, 2000, the Defense Finance and Accounting Service had 116,954 contracts completed, but not closed out.

Table 8. Open Contracts

Fiscal Year*	Number	Obligation Value (millions)
1993	348,536	$489,000
1994	378,400	490,800
1995	376,048	667,000
1996	387,401	810,000
1997	395,486	855,000
1998	384,861	894,000
1999	339,712	833,709
2000	329,121	844,958

*The accounting data are as of different cutoff dates during the fiscal years[78].

The report cites one of the main reasons for the increase in the inventory of physically completed contracts not closed is that: "Contracting personnel did not regularly perform contract close outs because the personnel lacked time for the work."[79] In a system where an ACO manages large volumes of active contracts as well as being responsible to close those contracts, it is a justifiable position that the contract closeout function takes a lower priority to contractual actions on active contracts. Devoting permanent resources to the contract closeout function by creating permanent closeout teams will fix this dilemma because the team's primary responsibility will be to close

[77] DoDIG Report No. D-2000-088, *DoD Acquisition Workforce Reduction Trends and Impacts*, February 2000, p. i.

[78] Ibid., pp. 17-18.

[79] Ibid., p. 17.

contracts, thereby reducing the queue variability in the turnaround time while simultaneously decreasing the mean turnaround time.

A counter argument to this recommendation is that there is a resource cost to establish and maintain these teams. While it is true that there is an additional resource requirement, the alternative, continuing to let millions of dollars of appropriated funds lapse, is even more expensive. According to the MOCAS database, the Navy has approximately $2,000,000,000 of obligated money sitting on physically completed contracts.[80] The statistics show that the Navy is losing approximately $500,000,000 per year.[81] One GAO report further illustrates this point,

> …the Navy failed to deobligate $452 million of unliquidated operating obligations that was no longer needed and potentially available for other permissible purposes, such as contract modifications….[82]

Our recommendation is centered on reducing the average queue length and variability in the turnaround time. Throughout the last decade, studies have primarily focused on reducing the process time, however, the backlog continued to grow.

It is an improbability that the desired results will be obtained by transforming the closeout process by focusing on process times rather than queue times, unless there is a transformation of the entire contracting process. Through analysis and interviews, we have not found a way to radically change the closeout process because the required closeout actions are a result of the way the Government funds and awards contracts. Each step appears to be necessary in order to eliminate future liabilities and to settle all costs prior to permanent closure. For example, the requirement for determining final indirect cost rates is a direct result of awarding cost-type contracts. While process transformational change is an improbability, incremental change can improve the efficiency and effectiveness of the process. Improving the business processes governing

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[80] ASN (RD&A) Brief to NPS, 14 October 2002.

[81] GAO-03-275 JAN 2003 Defense Budget – *Improved Reviews Needed to Ensure Better Management of Obligated Funds.*

[82] Ibid., p. 2.

final audits may reduce the time needed to perform the audit. However, the audit time is not the cause that creates the delay in closeout, the queue time is the cause.

What is needed is transformation of the organizational structure, not transformation of the process. The key stakeholders are stove-piped into functional areas, each sub-optimized for their own processes, which create interface problems and queues. While organizational changes are not easy, the organizational structure is under DoD control, and no statutory or regulatory changes need to be made to make these seemingly minor organizational realignments. Although there are some portions of the contract closeout system that reside outside of the Government's purview, such as contractors' actions, incentive systems can be drawn up to enhance their willingness to participate or penalties can be applied. Chapters V and VI of this report specifically address some potential means of incentivizing contractors to fully participate in accomplishing contract closeout.

In conclusion, our recommendation falls in line with the DoDIG's recommendation, which states,

> DoD made progress and closed about 30,393 overaged contracts from February 2000 to March 2001. However, another 26,610 contracts became overaged during that period. Based on the closure rate overaged contracts achieved during the February 2000 to March 2001 period, we estimate that it will take at least 6 years for DoD to close all remaining overaged contracts. ….We recommend that the Under Secretary of Defense (Acquisition, Technology, and Logistics) determine the DoD acquisition staffing requirements and, based upon identified needs, seek additional acquisition resources to accelerate the closure of contracts.[83]

[83] DoDIG Report D-2002-027, 19 December 2001, *Closing Overaged Contracts Prior to Fielding a New DoD Contractor Payment System*.

III. QUEUING DISCIPLINES

This chapter focuses on the effects that different queuing disciplines have on average turnaround times and rates of change of inventory levels. Specifically, the First-In-First-Out (FIFO) queuing discipline will be compared to the Shortest Processing Time (SPT) technique in application to the inventory of physically completed contracts that appear in MOCAS CAR Section 2.

As discussed in Chapter II, the Little's Law equation (2.1) demonstrates the linear relationship between arrival rate, turnaround time (TAT) and inventory. In other words, inventory levels increase or decrease in proportion to corresponding changes in arrival rate and/or TAT. Knowledge of this phenomenon is important because inventory typically consumes resources, making inventory reduction a management priority. Since inventory levels are linked to resources and capital, the rate at which the inventory is reduced can be as important as the change in the inventory level itself.

The SPT concept can be applied to the effort to reduce any Contract Management Office's (CMO) inventory of physically complete contracts. Implementing the SPT concept will reduce the average turnaround time and increase the rate (the speed) at which the backlog is diminished. The end result is a reduction in the average work-in-process, in the case of contract closeout, the inventory of physically complete contracts. However, due to the manner in which the obligated funds on contracts expire and close (a risk factor), we recommend applying a hybrid queuing technique to inventory reduction efforts, thereby optimizing the ratio of speed to risk.

A. FIRST-IN-FIRST-OUT VERSUS SHORTEST PROCESSING TIME

The Little's Law equation (2.1) expresses turnaround time as an average of the cumulative time to process a "job." Interestingly, different queuing disciplines produce different *average* TATs; yet, the *cumulative* turnaround time remains the same. It is possible to see the effects that different queue disciplines have on TAT by comparing FIFO to SPT. FIFO is a commonly practiced concept where the oldest job in the queue

gets first priority, also referred to as first-come, first-served (FCFS). This practice is almost universally accepted as a fair inventory management strategy, especially when the queue consists of people.[84] However, when the queue is "jobs to be processed" rather than "customers to be serviced," there are alternative scheduling concepts that are applicable. These concepts may include: "highest priority to the hardest jobs" (greatest work content), "highest priority to the jobs with the nearest due date" or "highest priority to the jobs requiring the least time to complete" (Shortest Processing Time).[85] Of these queuing disciplines, SPT has consistently produced smaller mean waiting times (average cumulative TAT) under widely varying circumstances.[86] The SPT rule can be applied either strictly – interrupting a job being processed whenever a job that could be processed faster comes along, or leniently – such as separating arrivals into long and short jobs and then giving priority to the short ones.[87]

A simple trip to the local grocery store amply demonstrates the SPT concept in practice. The express checkout lane is an example of the lenient application of SPT just discussed. As can be imagined, the total active time the grocery store takes to service all of their customers in a day would be the same regardless of the queue discipline employed. However, implementing an express checkout lane reduces the average customer wait time because the average rate at which customers are serviced is increased. Queuing theory shows that employing almost any SPT technique results in surprising efficacy.[88]

Consider a straightforward illustration of the advantage of the SPT technique using two customers in a single line at the grocery store. To keep the example simple, the clerk waits on the second customer immediately after the first is checked out, with no

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[84] Ravindran, A. et al., Operations Research Principles and Practice, 2nd Ed., John Wiley & Sons, New York, 1976, p. 332.

[85] Ibid.

[86] Ibid.

[87] Ibid.

[88] Ibid.

wait time between customers. It takes the clerk ten minutes to checkout "customer 1" but only two minutes to checkout "customer 2."

Using the FIFO technique, "customer 1" has priority because he arrived at the checkout counter first. "Customer 1" has to wait ten minutes before his checkout process is complete; "customer 2" must wait a total of 12 minutes (ten minutes for "customer 1" and two minutes for her checkout). A total of 22 minutes of "customer time" has passed during the processing of these two jobs, although the clerk has only expended 12 minutes of "processing time" on both customers. Using the FIFO system, the cumulative average turnaround time is 11 minutes (3.1).

FIFO $$\frac{10 + 12}{2} = 11 \qquad (3.1)$$

Using the SPT technique, "customer 2" is waited on first because her processing time is shorter than "customer 1's." "Customer 2" has to wait two minutes before her checkout process is complete; "customer 1" must wait a total of 12 minutes (two minutes for "customer 2" and ten minutes for his checkout). In this case, only 12 minutes of "customer time" has passed processing the two jobs, compared to 22 minutes using the FIFO technique. The cumulative average turnaround time is also shorter, which equals six minutes (3.2). Using SPT, the "processing time" the clerk took to service both customers is the same as the total "customer time."

SPT $$\frac{2 + 10}{2} = 6 \qquad (3.2)$$

Relating this example to contract closeout in DCMA, the clerk can be likened to the contracting officer responsible for closure; the customers equate to the "jobs" or contracts to be closed. The time required to process each "job" can be changed from minutes to months. If the contracting officer uses the FIFO technique, the total time to close both contracts is 12 months. However, it will take 22 months for both contracts to clear the MOCAS database. Using the SPT technique, it still takes 12 months to close both contracts, but they clear MOCAS within the same 12-month period.

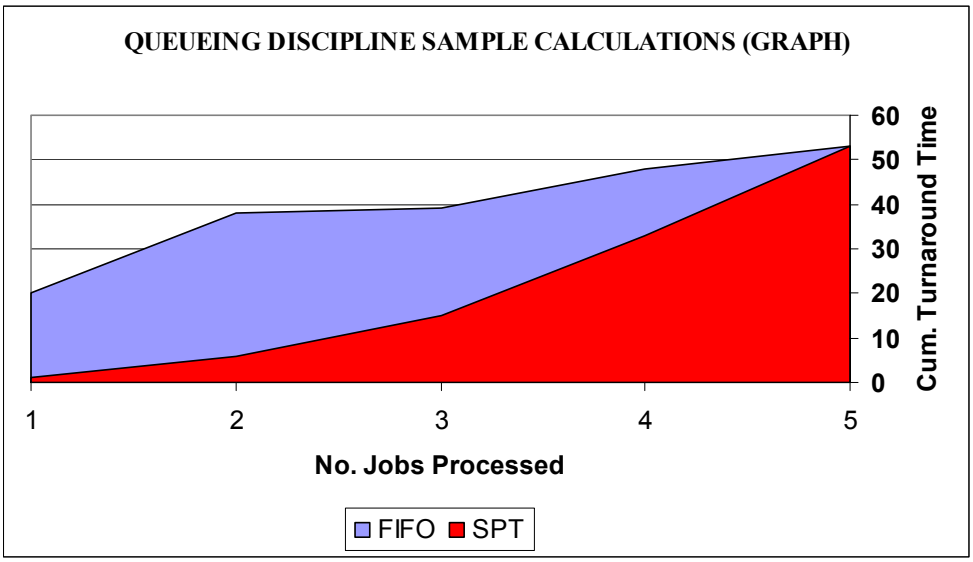
Table 3 shows a simple mathematical model comparing FIFO to SPT in a hypothetical contract closeout inventory scenario. As with the grocery store example, the emphasis of the model is the comparison of the average cumulative turnaround times and the advantage of the SPT technique.

First-In-First-Out (FIFO)							
Job Processing Order	1	2	3	4	5	*Total*	*Average*
Turnaround Time (months)	20	18	1	9	5	53	
Cumulative Turnaround Time (months)	20	38	39	48	53	198	**39.6**
Shortest Processing Time (SPT)							
Job Processing Order	3	5	4	2	1	*Total*	*Average*
Turnaround Time (months)	1	5	9	18	20	53	
Cumulative Turnaround Time (months)	1	6	15	33	53	108	**21.6**

Source: Developed by the authors. Adapted from "Logistics Engineering" course material authored by Prof. Keebom Kang, PhD, Naval Postgraduate School, 2003

Table 3. Queuing Discipline Sample Calculations.

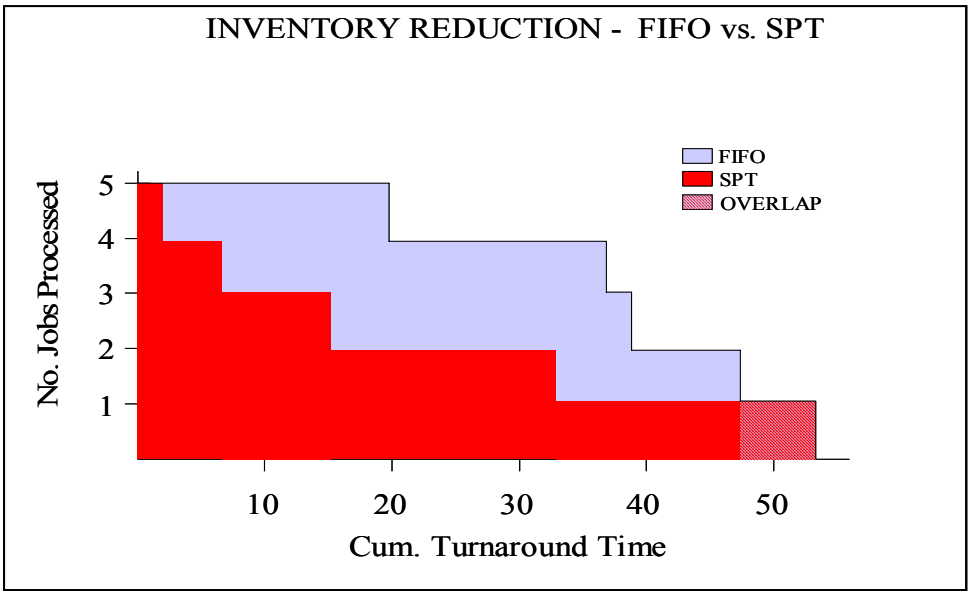
The effects of FIFO vs. SPT can also be shown graphically. Figure 13 shows the graph of the data in Table 3. As the model illustrates, the total turnaround time for the two techniques is the same (53 days), however, in Figure 13, it can be seen that the area under the SPT curve is less than the area under the FIFO curve. The smaller area equates to a smaller average work in process, or smaller average inventory level.



Source: Developed by the authors

Figure 13. Queuing Discipline Sample Calculations (Graph)

Figure 14 illustrates the same data, but reverses the axis to illustrate the comparison of FIFO and SPT in an inventory reduction scenario. This graph shows that the rate of reduction is faster using the SPT technique, even though the total time remains the same.



Source: Developed by the authors

Figure 14. Inventory Reduction – FIFO vs. SPT.

B. APPLYING QUEUING DISCIPLINES

In order to simply illustrate the SPT concept in the above example, we modeled a closed system – no new jobs were arriving. In reality, most systems are open systems – new jobs are continuously arriving. It should be noted that implementing a strict SPT process in an open system would have one potentially serious consequence; the job(s) that take the longest may never get processed because shorter jobs would always pre-empt them. If this presents a problem, a hybrid technique could be developed. In other words, SPT and another logical queuing discipline could be implemented simultaneously. This would have the effect of both reducing the average turnaround time (although not as much as strict implementation), and ensure that the oldest, most difficult, or closest due date jobs are not neglected.

Applying a strict interpretation of SPT to an inventory of physically complete contracts would create problems. The oldest contracts may never be closed due to a somewhat constant arrival rate of physically completed contracts into MOCAS CAR Section 2. In this case, a priority-based queuing discipline can help reduce this risk. The priority-based discipline (PBD) mirrors the FIFO concept by ensuring either the oldest or the highest priority contracts get processed first. However, implementing a hybrid SPT/PBD technique will optimize the speed to risk ratio.

The application of the queuing discipline should be based on a categorization of the contracts based on risk assessment. PBD should be used on high-risk contracts, which include the contracts listed in Table 4. By using PBD to close contracts in this category, the CMO can (1) reduce the chance that the funds will expire or close, (2) reduce the probability of using current year funds to pay for prior year obligations, or (3) get a better understanding of the liability incurred on these contracts.

Whereas PBD is appropriate for the high-risk category, SPT is appropriate for low-risk contracts. This category includes the contracts listed in Table 5. By implementing SPT, the CMO will benefit from the increased speed, decreased TAT, and decreased average work-in-process that this technique produces.

Contracts with obligated funds nearing the end of their active period
Contracts with obligated funds nearing the end of their expiration period
Contracts with obligated funds that have closed and liabilities against active funds is anticipated
Contracts estimated to take longer than the FAR time standards due to high complexity, or expectations of high queue time[89]
Contracts that require significant involvement from multiple stakeholders (e.g. DCMA, DCAA, DFAS, and the Procuring Activity)

Source: Developed by the authors

Table 4. High Risk Contract Category.

Contracts estimated to close within FAR time standards[90]
Contracts that have unambiguous amounts of funds available for deobligation and reuse, whether those funds are active or expired
Contracts with fully liquidated funds and no further obligations are expected or necessary
Contracts that can be closed by one or two of the stakeholders (e.g. only DCMA and DFAS involvement is necessary)
Low dollar value contracts
Contracts with a low level of complexity[91]

Source: Developed by the authors

Table 5. Low Risk Contract Category.

[89] Estimates based on workload analysis, contract type, and historical knowledge of the contract and contractor.

[90] Ibid.

[91] The complexity level of a contract is based on the judgment of the cognizant contracting officer. The contracting officer's experience, the number of contract line items (CLINS), the number of Accounting Classification Numbers (ACRNs), the length of the period of performance, the number of modifications, the number of payments, and contract type are examples of the factors that affect complexity.

C. RECOMMENDATIONS AND CONCLUSION

In order to optimize the speed to risk ratio, CMOs should group physically complete contracts into two categories, low-risk and high-risk, and use a hybrid SPT/PBD queuing discipline to continuously work to reduce the inventory of contracts to be closed. SPT increases the rate at which the backlog is reduced. PBD decreases the chance that the funds will close and incur liabilities against active funds. Together with batch processing, discussed in the next chapter, this hybrid technique can facilitate reduction in the average turnaround time to a level that significantly exceeds the arrival rate of contracts into the inventory - reducing the inventory at a faster rate than the current rate- while minimizing the risk of fund closure. Although our research team did not have access to the necessary data to group the MOCAS CAR Section 2 contracts into high or low risk categories using the characteristics outlined in Tables 4 and 5, interviews indicated that approximately 70% of the contracts are low complexity and 30% are high complexity.[92] Furthermore, as Chapter I indicated, we estimated that the probability of MOCAS CAR Section 2 contracts becoming overaged was 40 percent.[93] Given these data, we estimate that 60% to 70% of the contracts could be processed using the SPT technique, and 30% to 40% should be processed using PBD.

Through analysis of the Wynn list,[94] it appears that the emphasis of the leadership is processing the oldest contracts first, in other words using the FIFO system. However, strictly following this technique may not produce the optimum results. Leadership attention should be given to application of the SPT queuing disciplines as well.

As Chapter I discussed, the purpose of contract closeout includes: (1) maximizing the use of current or expired funds by making final payment and deobligating excess funds, and (2) limiting DoD's liability on physically completed contracts. By processing contracts that are easy to close first (SPT), the maximum amount of funds might be freed, and/or the total liability can be significantly reduced because there are fewer contracts in

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92 Interview (TEL) DCMA San Diego, 10 April 2003.

93 Reference Chapter I, Section D: "Findings".

94 The Wynn List is a list of overaged contracts in the MOCAS database given leadership emphasis due to their age.

the inventory on average. Coupling the SPT with the PBD method can maximize both the leadership's and workforce's endeavor to reduce the inventory of physically completed contracts.

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IV. BATCH PROCESSING

The purpose of this chapter is to determine whether batch processing is a viable means of closing physically completed contracts in MOCAS CAR Section 2. The idea behind processing a batch, or a group of homogeneous contracts under the same contractor, is to simultaneously close more than one contract at a time, thereby decreasing the average turnaround time (TAT). As discussed in Chapters II and III, significant reductions of the inventory of physically completed contracts will only occur if the average TAT or the average arrival rate is lowered. By decreasing the average TAT from its current state, batch processing offers a method to increase the speed of the inventory reduction effort. Analysis of MOCAS CAR Section 2, several GAO reports, and interviews yielded significant insight into the issue and the development of a concept for how this process can work. This chapter discusses the concept of processing a batch of contracts, proposes a basic process to close groups of contracts including a three-phased approach towards implementing that process, and briefly describes the financial impacts of batch processing.

A. THE CONCEPT

The primary reason for batching contracts is to eliminate the time-intensive process of reconciliation and administratively close the contract, regardless of the status of liquidations. A negotiated settlement based the batch processing concept would replace reconciliation as the final action on a contract in which all other required closeout steps have been completed. In order to accomplish batch processing, the Navy should implement a three-phased approach ranging from completely homogeneous batching through a transformational approach to batching multiple fiscal year, multiple appropriation batches.

A study conducted by GAO in 2001 concluded that under the current system, it would likely take six years for DoD to eliminate the entire backlog of overaged contracts within MOCAS.[95] A similar GAO report, also completed in 2001, cited numerous

[95] GAO Report D-2002-027, 19 December 2001.

contract reconciliation actions that would result in thousands of labor hours and take several years to complete.[96] At such a rate, it is difficult to believe that tens of thousands of contracts in the backlog could be reconciled and closed within a six-year period. Additionally, contract closeout will continue to strain already tight personnel resources and hamper the processing of active contract actions. The DoD must approach the issue of the backlog of physically completed contracts differently and batch processing offers a viable option to more rapidly eliminate that backlog.

Change in the existing closeout process is required. The additional pressure being applied by Service acquisition officials to reduce the backlog is having some impact, due to the enhanced focus on the issue,[97] but improvement in the rate of closures is not of the necessary magnitude to eliminate the problem within the next several years. During this period, hundreds of millions of dollars of current program funding will continue to be at risk as the appropriations originally intended for those previous year obligations close.[98] As previously mentioned in Chapter II and by various GAO reports, closing over 47,000 individual contracts will create a massive drain on already strained resources in DCMA, DCAA and DFAS; a resource requirement that will last for the next several years. Until additional manning or improved processes can be adopted, a means of closing contracts in large bunches, or batch processing, seems a viable solution to increasing the rate at which closeouts can occur. In addition to reducing the number of contracts that will become overaged through front-end and administrative improvements, addressed in the next chapter, batch processing groups of contracts offers a means of working within current statutory and regulatory guidelines to clear the existing backlog.

The U.S. Army's Tank Automotive and Armaments Command (TACOM) has recently attempted to batch process overaged physically completed contracts that were funded by appropriations that are now expired or closed.[99] Although they have realized

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[96] GAO Report 02-747, October 2001.

[97] Interview (TEL) ACO Team Leader, DCMA Manassas, 11 April 2003.

[98] Interview ASN (RD&A) ACQ Office Personnel, 11 November 2003.

[99] Interview (TEL) TACOM PEO-GCS, 08 April 2003.

success in negotiating administrative closeout with the contractor, they have yet to finalize the closeout action within the MOCAS system. As such, DFAS considers the closure of these contracts pending, and they remain open in MOCAS until a final reconciliation judgment can be completed. The issue of closing the contracts in MOCAS must still be resolved, but for all intents and purposes all Government liabilities have been negotiated away for those contracts in the batch. Throughout this chapter we will incorporate the lessons learned from TACOM's experience since it offers an opportunity to improve the existing closeout process and reduce the backlog of physically completed contracts.

Initially, the contracts best suited for batch processing are those under a single contractor and a single buying command, and involve only closed funds in the same appropriation. Although only a limited number of contracts fall under such restrictive bounds, the initial intent is to prove the concept prior to moving the limits. In fact, the only initial requirement to prototype batch processing is identification of at least two contracts within the aforementioned bounds, a case that occurs seven times amongst the first one hundred contracts listed as overaged in the February download of MOCAS CAR Section 2.[100]

In order to ensure the accuracy of a settlement and to mitigate any risks to the Government, the completion of the closeout procedures required under the FAR must be completed and documented. Furthermore, a DCAA audit must be conducted prior to commencing negotiations to solidify the Government's negotiating positions. If these conditions are present, then the Government representative at either DCMA or a buying command can identify a prospective batch, and the applicable contractor can be contacted to commence the procedure.

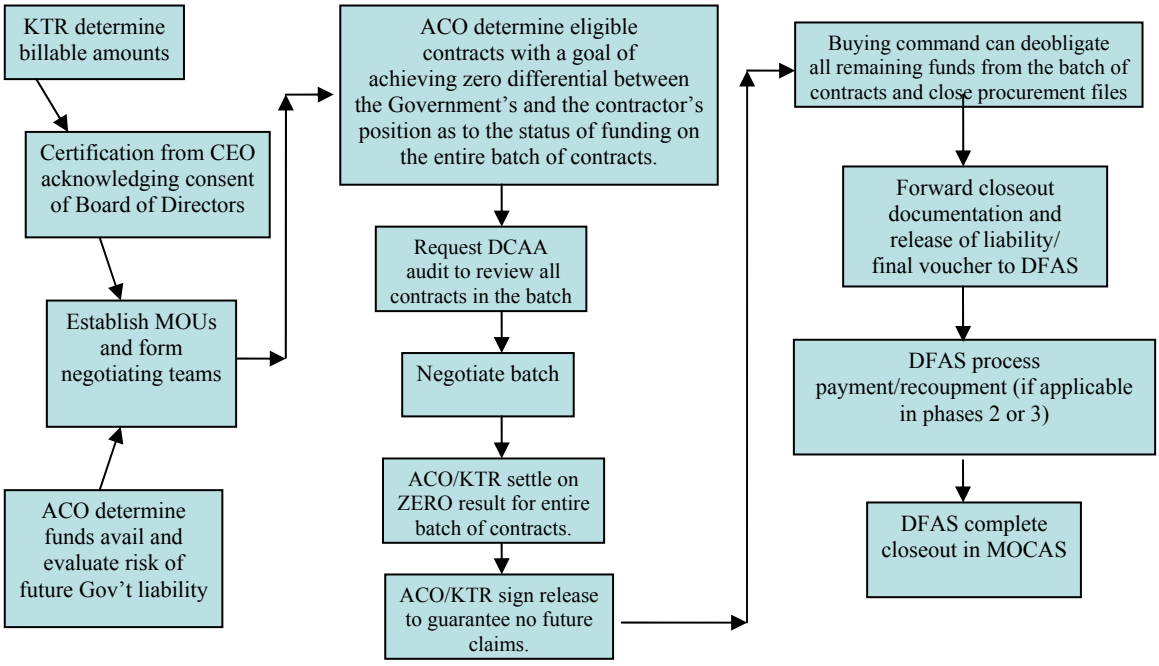
By definition, a contract is an independent agreement between the Government, represented by a warranted contracting officer, and a contractor. If the contractor and the

[100] MOCAS CAR Section 2 download, provided by DFAS Liaison Office for February 2002. Contracts were sorted by size of contract and batches of two or more were selected based on the information available in the download. It is not possible to determine the specific appropriation involved in each contract, however it appears as though there are multiple opportunities to implement Phase I.

contracting officer can come to an agreement on settling the contract, then such an agreement should be accepted by all other stakeholders and the contract should be considered closed by all reviewing authorities. The most important factor, however, is to have the absolute support and concurrence of the contractor for this process to be successful.[101] The Government has an incentive to close out the contract due to the potential risk to current year funding, while the contractor will be able to remove outstanding debits or credits, depending upon the situation of each contract, and may then focus on current business vice past accounts. Both parties should win in a batch process due to anticipated savings of both time and money and thus reducing contract closeout costs.

B. THE PROCEDURE

Figure 15 displays one possible approach that could be used to accomplish batch processing for contracts administered within MOCAS, although it could easily be modified and utilized by buying commands that administer their own contracts.



Source: Developed by the authors with advice from TACOM

Figure 15. Potential Batch Processing Procedure.

[101] Interview (TEL) TACOM PEO-GCS, 08 April 2003.

The initial step requires the Procuring Contracting Officer (PCO) at the buying activity, or the cognizant Administrative Contracting Officer (ACO) at a DCMA, to batch a number of contracts that are physically complete, with all FAR-required closeout actions completed and documented in the acquisition file through use of the DD Form 1597.[102] Although completion of all closeout actions may be a flexible requirement in later phases, it is essential in the first phase in order to first prove the concept. The contractor must be contacted and informed of the concept and the benefits that can be achieved through this type of process. It is critical for the contractor to inform their Board of Directors and to acknowledge their understanding that a negotiated settlement will result in the permanent closure of each of the contracts in question, and that no future claims against the Government can occur after the settlement. A Memorandum of Understanding (MOU) must be completed between the Government and the contractor documenting agreement to use the batch process concept to close the contracts proposed. The MOU must contain Chief Executive Officer (CEO) certification that the Board of Directors concurred with the batch action prior to embarking on the negotiated settlement. This is necessary in order to conform to the Sarbanes-Oxley Act of 2002, which requires Boards of Directors to take a more active role in management decisions, as well as to protect the Government from future claims.[103] The MOU must be signed by all participating parties, which would include the PCOs and Program Managers (PMs) for the contracts in the batch, DCAA, the ACO, and the contractor's representatives. Although it may appear burdensome, it is critical, especially in the proving phase, to obtain the concurrence of all parties prior to embarking upon this batch processing action. Once the process is proven, it is possible for the MOU to remain in place to allow for further batch processing actions in any given period specified by the MOU.

The contractor will either offer suggestions as to how to better approach the batch, or continue with the process by entering the negotiation with their billable amounts for each contract in the batch. Once a batch is agreed to by both parties, a priority DCAA

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[102] DCMA "One Book," Contract Closeout Section.

[103] Interview (TEL) TACOM PEO-GCS, 08 April 2003, Sarbanes-Oxley injects requirements on Boards of Directors to take an increased role in corporate oversight.

audit will be requested to review the contracts unless they fall under continuous audit procedures or if a DCAA audit has already been accomplished on the applicable contracts. TACOM stated that priority DCAA audit requests were processed and results forwarded by DCAA within one month from the date of the request. Such timely auditing is critical in maintaining momentum in the batch process.[104] Once the incurred cost audit results are received from DCAA, the ACO has a basis for creating the Government's negotiating position. Final overhead rates, discussed in detail in Chapter VI, may either be settled prior to batch processing negotiations (through either DCAA audit determination or through DCMA ACO negotiation) or they may remain an open issue for potential settlement during batch processing negotiations.

Both parties will enter negotiations based on the premise that an equitable agreement will occur in the interest of both parties. Negotiations seek an administrative closure of the contracts in the most efficient manner possible and resolution is in the interests of both parties. This method of batch processing should occur in three separate phases, with the eventual goal of completely transforming the method of reducing the MOCAS CAR Section 2 inventory. Each phase will be addressed in the following section, but the overall premise is always based on the concept of simultaneous closure of numerous completed contracts.

Once a settlement is agreed upon during negotiation, the parties will all sign a Memorandum of Agreement (MOA) that will guarantee no future claims on the side of the contractor and no recovery audit on the part of the Government. The MOA will serve as a contract modification to the now-settled contracts and will include the terms of the final settlement, final annotation to fiscal accounts, and permits final closure of the contract/acquisition files. The MOA will then be sent to DFAS to document the settlement between the parties and final closeout in MOCAS can be completed. It is important to note that the MOA is not intended to set any precedent for any future batch processing negotiations, thus any determination of overhead rates, etc, should not carry over and thus limit or preclude negotiations for other batches.

[104] Interview (TEL) TACOM PEO-GCS, 08 April 2003.

Most of the personnel interviewed for this study indicated an interest in attempting batch processing as a means of reducing the backlog at their activities. Research also indicates that industry would be more than willing to write-off a significant portion of their billable amounts in order to clear the old contracts from their records; in some cases they would be willing to write-off or absorb up to 20 percent of the billable value on each contract.[105] Contractors indicated that the costs of simply preparing a final invoice, and undergoing the required certification/audit, often far outweighed the potential income.[106] Similarly, the Government should consider the time and effort required to complete contract closure using the traditional manner when forming a negotiation position. It is significant to note that the contract closeout process must be unduly arduous if defense contractors are willing to forego a significant percentage of their anticipated billable expenses in order to abbreviate or eliminate it. This is Government regulation at its worst, and such evidence points out the need to embrace a more radical method for affecting contract closeout, such as batch processing.

As previously stated, avoiding detailed reconciliation could lead to thousands of labor hours being saved, although there are also other savings to be realized. Buying commands benefit by reducing the contracts they have in their backlog as well as removing potential liabilities against their current programs.[107] DCAA expressed interest in the concept due to the advantage of processing batches of contracts from buying activities/DCMA vice the sporadic requests for priority audits they are currently receiving as overaged contracts come up for closure.[108] DCMA voiced their interest in the concept as a means of reducing the burden of reconciling many overaged contracts, some of which became physically complete twenty years ago.[109] Interviews with DFAS personnel also indicated a desire to move to a form of negotiated settlement of physically

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[105] Interviews conducted with several major defense contractors, March – May 2003.

[106] Interview (TEL) conducted with three defense contractors.

[107] Ibid.

[108] Interview with DCAA San Diego, 03 April 2003.

[109] Interview with DCMA San Diego, California, 03 April 2003 and interview (TEL) with DCMA San Francisco, California, 08 April 2003.

completed contracts vice the current reconciliation-driven closeout process, recognizing it as more advantageous and efficient given their already burdened resources[110]. Since most stakeholders have voiced interest in the concept of batch processing, this approach should be attempted as a method of reducing the existing backlog in bunches vice one by one processing. Indeed, the materials or services were obtained long ago, thus the intent of Congress was met, yet the minutia and comparably low dollar values involved compared to the initial obligation make the necessity of detailed closeout an absurdity.

As previously stated, in order to implement the concept of batch processing, it is prudent to approach the concept in three distinct phases. The first phase will introduce the concept and prove its value, the second will allow for more far-reaching efforts to eliminate the backlog of physically completed contracts, and the third phase will seek to truly transform the way contracts can be closed.

1. Phase One: Test the Concept

Due to the exceptionally complex procedures to pay or collect funding from expired accounts,[111] the initial goal should be to reach a ZERO-SUM solution where no money changes hands and no adjustments to prior year accounting records will be required. As previously stated, such an occurrence is somewhat common within MOCAS CAR Section 2, thus multiple test cases could be attempted to prove the validity of this method of closing multiple contracts simultaneously. The contractor's and the Government's goal is to find a homogeneous group of contracts solely involving a single closed appropriation. To further reduce potential resistance, the contracts would ideally fall under the same budget activity or major sub-account.

TACOM found the path of least resistance to be a settlement surrounding a single program, the Bradley Fighting Vehicle, with hundreds of millions of dollars in originating obligations and contracts spanning back to the mid-1980s.[112] Initial resistance was encountered when working within their comptroller community due to

[110] Interview with DFAS San Diego, California, 03 April 2003.

[111] DoD Inspector General Report of 07 May 2001 includes detailed procedures to make collections for closed accounts.

[112] Interview (TEL) TACOM PEO-GCS, 08 April 2003.

concerns over mixing appropriations, or using one appropriation to pay for obligations originally intended to be provided by another appropriation. However, by aligning the contracts within the same program and reaching a settlement condition that did not involve the transfer of funding to either party, resistance quickly changed to outright support for the method.[113]

In this phase, there is very limited risk to both the contractor and the Government, yet incentives exist to clear the backlog of physically completed contracts in order to focus on new business. Several contractors have expressed their desire to eliminate potential claims on current funding that may impact their accounts receivable if active appropriations are charged to settle expired appropriation monetary shortages. Unlike the TACOM example, however, where the Army immediately moved to multiple fiscal years (FYs) and multiple appropriation settlements, the Navy should first attempt the methodology suggested in this phase to first prove the validity of the concept prior to moving to more complex settlements. This is a true "WIN-WIN" situation and should be attempted as soon as possible. This negotiated settlement seeks only administrative closure of multiple contracts with no money changing hands. Both parties simply agree that the closure of the batch is in their mutual interests, and that they certify the contracts as closed, with no further payments or collections pending. This method can conceivably progress to batching contracts under appropriations that remain active as well, due to the fact that there is some flexibility in reprogramming money between programs at the major command level.[114]

2. Phase Two: Increase the Pool

Since money is not transferred between parties, there is little, if any risk involved in Phase One. It simply offers the short-term successes required to develop and implement the procedures that are necessary to move into a more advanced state of batch processing contracts. Once pilot programs have proven the concept, then it will be

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[113] Interview (TEL) Assistant Secretary of the Army for Financial Management and Comptroller, ASA (FM&C), 08 April 2003.

[114] *Practical Financial Management: A Handbook of Practical Financial Management Topics for the DoD Financial Manager*, March 2003.

possible to move into Phase Two: batch processing a negotiated settlement where money is exchanged after a negotiated agreement. Like Phase One, batching contracts into homogeneous groups by appropriation and fiscal year would allow for easier accounting adjustments[115] and serve as a further means to prove this more advanced concept before transitioning to revolutionary approaches to batching – Phase Three.

Instead of complete focus on closed appropriations, as outlined in Phase One, expired and active accounts could also be considered for batch processing in Phase Two. DFAS representatives indicated that DoD Financial Management Regulation (FMR) provisions and previous GAO findings would likely limit their ability to process any other form of batch processing within the accounting system. However, there was sufficient flexibility within their Vendor Pay and MOCAS systems to allow for flexibility in the fiscal processing of a settlement.[116] Therefore, even though the current rules do not permit flexibility in settlement of reconciliation issues, the computer systems used by DCMA and DFAS to manage contracts through closure appear to be capable of accomplishing the transactions necessary to document batch processing settlements.

Since there is some flexibility to move money within appropriations up to specified thresholds,[117] this method of batching will allow for negotiated settlements that do not reach a ZERO-SUM result. The contractor enters into the negotiation with multiple contracts and billable amounts. The Government must consider the cost of individual closeout of each contract if a negotiated settlement cannot be achieved as a factor in its negotiating position. Once closeout is negotiated for the batch, contracts can be annotated as closed within the acquisition files, all remaining active appropriations can be deobligated, and final notice of a negotiated settlement/final invoice notification can be sent to DFAS to complete closeout in the appropriate system. In this procedure, a single contract modification, in the form of an MOA, citing all of the contracts closed in the batch and a single final voucher/collection voucher can be issued.

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115 Interview with DFAS San Diego, 03 April 2003.

116 Ibid.

117 Practical Financial Management: A Handbook of Practical Financial Management Topics for the DoD Financial Manager, March 2003.

This Phase is significantly more complex, since it includes provisions for processing additional payments or collections. Furthermore, this process requires the alignment of currently available replacement funds, since most of the appropriations for overaged contracts have long since closed. Batch processing in Phase Two adds the ability to reach a final settlement amount that would be indicated on the settlement MOA. A final voucher would be forwarded to DFAS for final action once replacement funds were found and applied, or the contractor would forward payment if it owed the Government money from overpayments.

3. Phase Three: Transformation through Batch Processing

In the long-term, contracts involving multiple appropriations over multiple fiscal years could be negotiated for batch closeout. To go even further, perhaps provision beyond financial reconciliation, such as outstanding property issues or patent/royalty issues, could also be resolved through inclusion of those contracts in a batch processing scheme. As previously stated, the contractual relationship between the buying organization and the contractor extends, by definition, all the way through contract closure terms. In negotiating the settlement of overaged contracts, both the Government and the contractor have an incentive to clear old business in order to concentrate on new services and procurements. Due to limitations imposed by current fiscal law regarding appropriation purpose and period of availability, the best means of compliance with all applicable laws and fiscal management regulations is to arrive at a non-monetary solution during settlement negotiations for these complex batches.

The Phase Three batch may involve multiple appropriations spanning multiple years but must be grouped in such a manner that all of the contracts involved settle with a ZERO-SUM solution in order to stay within statutory and regulatory guidelines. Since no further disbursements or collections are necessary to achieve closure, no adjustments are required to cancelled, expired, or active appropriations.

To reach true transformation, however, it should also be possible to make payments or collections on any negotiated settlement, regardless of whether the funding on the batched contracts is closed, expired, or active. Congress exercises authority over

the Executive Branch through limitations on the period of availability, purpose, and amount of funding granted in an appropriation. Since the intent of Congress has been fulfilled and the materials or services in question have long-since been received and paid for, additional flexibility in the final resolution of those appropriations should be granted. Several options are available to facilitate this type of payment, but these options involve changes to the financial management system, which is beyond the scope of this study. However, major commands within and outside of DoD are managing their funds in a manner that facilitates the availability of replacement funds. For example, the Army Material Command (AMC) conducts monthly reviews of expiring funds and recoups all remaining balances early in the final year of their availability.[118] At the Service level, the Army then moves to recoup all of the major commands' balances on expiring accounts by mid-year, and uses them to fund Army-wide requirements and/or contracts that require replacement funds. Reviews are conducted quarterly to examine all fiscal year obligations potentially available for recoupment.[119] Using this procedure, during the last several years, the Army has only lost approximately $1,000,000 due to appropriation closure, which could have been used to pay the Service's overaged obligations. By contrast, the Navy's figure is closer to $500,000,000 with nearly $50,000,000 in replacement funds required to pay for prior year obligations.[120] AMC's total was nearly zero.[121] AMC attributes the increased visibility of expiring funds as a major reason for the successful effort in closing nearly 2,500 contracts during 2002.[122] The Department of Energy has a similar system in which they constantly review contracts for available funds and then pool them at the agency level to be used as replacement funds.[123] The Navy

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[118] Interview (TEL) Army Material Command (AMC), Procurement Analyst, 08 April 2003.

[119] Interview (TEL) Office of the Assistant Secretary of the Army for Financial Management and Comptroller, ASA (FM&C), 08 April 2003.

[120] Information provided by ASN(RD&A) ACQ personnel 24 April 2003.

[121] Interview (TEL) Army Material Command (AMC), Procurement Analyst, 08 April 2003.

[122] Ibid.

[123] GAO Report B-272441, 06 August 1996.

may wish to consider a similar system in order to place additional emphasis on recouping funds prior to their closure, and use these pools to pay overaged obligations.[124]

4. Creation of Enhanced Reprogramming and Transfer Authority

One of the most prevalent problems in the closeout of overaged contracts is the lack of timely application of replacement funds to cover any remaining balances on those contracts.[125] Since the majority of overaged accounts involve expired appropriations,[126] DoD must utilize funds currently available for new obligations, thus use current funding instead of the appropriations originally intended for that purpose. Each year, the Navy allows nearly $500,000,000 worth of expired funds to close because it was left obligated on overaged contracts within MOCAS.[127] Ideally, a pooled account with very limited purpose and scope could be created that draws from appropriations in their last year of availability prior to being closed. This pool could be used to pay for overaged obligations for only those contracts currently residing in MOCAS CAR Section 2. The alternative is to continue creating uncertainty in budget activities and procurement programs as more contracts are being reviewed for closure, resulting in the requirement for active replacement funds to make final payment to close old contracts. Although a pooled account would be ideal as a means of accomplishing batch processing payments from expiring and closing accounts, it likely to be hotly contested by Congress due to the lessons learned from the closure of the "M" account in the early 1990s.

In accordance with 31 U.S.C Section 1557, a pooled limited purpose account is possible under current fiscal law. This law also provides limited reprogramming and transfer authority to major commands to enhance efficiency in the expenditure of funds. It also recognizes that some flexibility is required in executing programs, and has

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[124] In a response to GAO Report 03-275, Admiral Church of ASN (FM&C) argued that the Navy's resources were better spent on efforts to improve financial information rather than on enhanced oversight of expiring and closing funds and that limitations imposed by Congress clearly demonstrate that the "appropriateness of use outweighs the efficiency of use" regarding expired accounts.

[125] Interview of ASN (RD&A) ACQ Office Personnel, 10 October 2002.

[126] Of the 11,188 overaged contracts in the Navy's portion of MOCAS CAR Section 2, over two-thirds are over three years old, indicating, by definition, that they are no longer available for new obligation, thus are expired.

[127] Ibid.

therefore provided a limited means to move money between budget lines.[128] For some appropriations, such as those involving expired accounts, reprogramming limits have likely already been reached. As such, DoD must request extraordinary transfer and reprogramming authority in order to facilitate the closure of contracts within MOCAS CAR Section 2, and request permission to reprogram funding obligated on those contracts to facilitate closeout actions.

Within current fiscal law, appropriations may be used for new obligations for a period of one to five years, depending upon the specific appropriation. After that period, the appropriation expires and remains expired for a period of five years. During the period of expiration, the appropriation may not be used for new obligations, but may be expended from obligations made during the initial period of availability. After the expiration period, appropriations close (or lapse) and are no longer available for expenditures.[129] All remaining balances are then cancelled and removed from DoD budget holders. A provision exists, however, to allow agencies to seek Congressional permission to extend funds where it makes economic sense. The statute indicates,

> Congress may, by specific legislation, exempt an appropriation from the above rules and may otherwise fix the period of its availability for expenditure under 31 USC 1551(b), 1557. An agency should consider seeking an exemption if it administers a program which by its nature requires disbursements beyond the five-year period. One form of exemption simply preserves the availability for disbursement of previously obligated funds.[130]

Consideration should be given to extending this concept to include enhanced reprogramming and transfer authority to move available balances from all appropriations nearing their expiration and use them where needed solely for the purpose of accomplishing closeout actions. The availability of these funds should be extended to six additional years to cover the period GAO anticipates is required to eliminate the current

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[128] GAO *Principle of Federal Appropriations Law*, July 1991, Volume I, Ch5C.

[129] Practical Financial Management: A Handbook of Practical Financial Management Topics for the DoD Financial Manager, March 2003.

[130] GAO Principles of Federal Appropriations Law, July 1991, Volume I, Ch5D.

backlog of overaged contracts. As stated, the nature of the reprogramming may only be used for the purpose of closing out contracts in MOCAS CAR Section 2. Such limitation would allay fears of misuse, as well as eliminate the potential to use to pay for programs not specifically authorized or fully funded by Congress. As the above statute indicates, Congress may adjust appropriation rules in special cases where additional flexibility is necessary for more efficient expenditure of DoD funding and can make this adjustment by granting an exemption in the next Defense Appropriations Bill.

DoD should apply to Congress for extraordinary transfer and reprogramming authority to permit DoD to combine appropriation balances in their last year of availability, and utilize those funds for the necessary six-year period to close all overaged contracts in the backlog. However, if batch processing and other recommendations such as the SPT concept from this report are incorporated, this period could be significantly shortened. DoD could then use that enhanced authority to accomplish the payment of all unliquidated claims on overaged contracts. After a period of six years, an audit could be conducted to ensure the reprogrammed funds were utilized solely for the purpose of closing out contracts already within MOCAS CAR Section 2 on the date the exemption took effect. Only contracts within the current physically complete but not yet closed section would fall under this provision for using that authority. Such a rule would eliminate potential "gaming" of the system under a pooled account as well as what occurred under the pre-1991 merged-account that was closed by Congress due to severe mismanagement.[131] With safeguards put into the language of the relief provision, this manner of more efficiently utilizing DoD-assigned resources would aid in the resolution of many of the funding issues that arise for overaged contracts. Once overaged contracts have been eliminated, a focus on active appropriation contracts can occur to more efficiently reconcile those contracts and recoup those active funds for reuse in their respective programs.

[131] 31 U.S.C. Section 1551.

5. Drawbacks to Batch Processing

Batch processing is not a panacea for eliminating the backlog of physically completed contracts, although it does offer one method for expediting closeout efforts. Many contracts will not be eligible for the process due to pending FAR-required closeout actions, lack of a viable means of establishing a workable batch, or mixtures of active, expired, or closed funds on the same contract. In some cases, the Government and the contractor may not agree, or one of the parties may seek to gain advantage in the batch negotiation vice to simply settle for an administrative closeout.

Additional factors such as perceived forgiveness of vendor debt may also be raised, although a strong business case could certainly be made that the vendor's debt is not being forgiven, merely balanced out by other contracts where the Government may owe the contractor their billable amounts plus any interest that may have accrued. This concern is addressed in the different phases by recommending a ZERO-SUM result of any negotiation. The Government would not forgive debt; merely balance the debt with payable amounts to reach an equitable aggregate solution. Careful consideration to the "Bona Fide Need Rule" and the Anti-Deficiency Act[132] must also be given to ensure that these important statutory guidelines are not violated at any stage. Although there are drawbacks to the batch processing method, it provides one means to tackle the tremendous inventory of contracts in MOCAS CAR Section 2. The concept adheres to the principles addressed in the FAR and the first two Phases remain within the bounds of existing statutory guidance. As evidenced by the success TACOM has had in implementing a batched negotiated settlement, resulting in a solution involving no pecuniary consideration, the Navy could also benefit from this new approach to contract closeout, and take strides in reducing the backlog.

C. RECOMMENDATIONS AND CONCLUSION

In summary, we recommend the immediate implementation of Phase One batch processing initiative to prove the concept and establish procedures that will aid in moving on to other phases. Several contractors should be contacted to discuss the viability of this

[132] Ibid.

method of negotiated settlement. Batch processing offers a negotiated settlement option to close complex contracts that would otherwise require thousands of hours in reconciliation efforts to reach a "to the penny" accounting of all contract transactions. This method takes into account the costs to the Government and to the contractor in affecting closeout.

In addition, more proactive financial management reviews of unliquidated balances in obligated funds should be conducted. Improved oversight will increase the likelihood that funds will be removed from contracts as they become available, vice waiting until they are nearer to expiration before being considered for deobligation. In addition, the Navy should, in concert with other Services, seek exceptional reprogramming and transfer authority under 31 U.S.C. 1557 that is strictly limited to applying replacement funds to overaged contracts. As indicated, the Department of Energy uses expired funds to pay obligations on physically completed contracts prior to the funds being closed. This can be used as a model for developing a similar system within the Navy.

Current limits placed upon reprogramming and realignment of program funding is necessary in the front-end and administration of program activities, but once contract closeout is involved, the large degree of uncertainty regarding contract reconciliation calls for greater flexibility in managing funds. The goal is to close the Governments contracts in an efficient and cost-effective manner rather than to rely on a "to the penny" method of reconciling expenditures.

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V. PAYMENT ISSUES

This chapter discusses several issues relating to contract payment including: Accounting Classification Reference Number (ACRN) issues, contract reconciliation, and payment of final invoices using the Government purchase card. Payment related reason codes account for 20% of the contracts in the closeout backlog in the Navy's February 2003 MOCAS database. A 2003 General Accounting Office (GAO) report illustrates the magnitude of this issue:

> ...$147 million of unliquidated operating obligations was inaccurately recorded because of problem disbursements—payments not properly matched to the correct obligation. A further $330 million was inaccurately recorded due to unresolved errors, such as bills that were not processed properly.[133]

Through discussion and recommendations, this chapter addresses process changes that could improve the efficiency of contract closeout.

A. ACCOUNTING CLASSIFICATION REFERENCE NUMBER AND CONTRACT RECONCILIATION

The purpose of this section is to discuss contract closeout issues relating to ACRNs and reconciliation. Reconciliation is an element of the contract funds review, a closeout step listed in the FAR.[134] Reconciliation is a Defense Finance and Accounting Service (DFAS) requirement to compare and reconcile balances in MOCAS to the balances shown in the accounting records prior to pulling back any remaining funds and closing MOCAS. The process of reconciling contract records includes analyzing, verifying, and correcting obligation and disbursement records at the payment office, buying activity, contract administration office, and accounting station to ensure concurrent accuracy.

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[133] GAO Report 03-275, January 2003 and DFAS-Columbus Survey.

[134] FAR 4.804-5, Procedures for Closing Out Contract Files.

The main root cause of reconciliation issues lays in the way Department of Defense (DoD) funds and structures contracts. Therefore, our recommendations are centered on up-front actions, rather than changes to the closeout process itself.

Analysis of the MOCAS database shows that reason code P, 'Reconciliation with the paying office and contractor being accomplished,' is the fifth largest statistical reason overaged contracts have not closed. Within this population of contracts, 54.5% are Firm-Fixed-Price (FFP) and 28.2% are Cost-Plus-Fixed-Fee (CPFF). Close to thirty-eight percent of the contracts in this status are below $100,000, and thirty percent are above $5,000,000.

While reason code P does not represent the largest percentage of the overaged backlog, it was one of the top reasons Administrative Contracting Officers (ACOs) indicated that prevent timely closeout, and one of the areas of highest frustration.[135] Reconciliation is also important because it must be done before a contractor can be paid, and/or before funds can be deobligated from the contract. It can also represent a large manpower cost.

> DoD estimates that it will take 2,300 staff hours to correct the accounting records for this large contract alone and over 21,000 staff hours (10 staff years) to correct the accounting for all of the affected fiscal year 2000 transactions. The substantial time and resources it takes to sort through DoD's complex accounting processes to correct these types of errors is yet another reason why DoD has to ensure that it accurately records transactions the first time around.[136]

After a brief background discussion**,** ACRN issues are discussed, followed by reconciliation issues. The section concludes with our recommendations.

1. Background

Payment issues were identified as one of the major reasons contracts become overaged.[137] Although DFAS is responsible for processing the contractor's final invoice

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[135] SAIC Interview, 01 April 2003.

[136] GAO Report 02-747, July 2002.

[137] Interview, DCMA San Diego and FISC San Diego, 02 April 2003.

and issuing the check or electronic funds transfer for payment,[138] changes in appropriation law have made payment of the final invoice a very challenging endeavor. Enactment of Public Law 101-510 on 5 November 1990 significantly changed DoD's procedures and guidelines for access and disposition of the expired and closed appropriations under a new definition for expired and closed appropriation accounts. The legislation required the development of new management procedures to process upward obligation adjustments against the expired and closed appropriations and eliminated the notorious "Merged" or "M-Account" that was used to pool deobligated funds. In its place, restrictions were placed on the period of availability for funds and set a definitive life for every appropriation, after which the appropriation closes, or lapses. The methods implemented to adhere to those appropriation requirements have led to a plethora of obligation adjustments that contribute to inaccurate or delayed payments and untimely contract closeout.[139]

2. Accounting Classification Reference Number Issues

One of the most significant payment issues arises when DFAS is unable to make a payment on an invoice due to insufficient funds on a particular ACRN.[140] Although procedures were put into place following a 2001 GAO recommendation to require pre-validation of the availability of funds prior to their release for contract payment, research indicates that this problem is encountered in up to one third of all payment actions being processed.[141] Under the recommendation, DFAS requests written approval and certification from the Funds Manager (FM) prior to making the payment.[142] This additional step causes a delay on the payment of the invoice that could result in interest payments to the contractor[143] due to potential violation of the Prompt Payment Act.[144]

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138 AFMC Contract Payments Web Site.

139 DoDIG Report D-92-076, 15 April 1992.

140 DoDIG Report D-2002-076, 29 March 2002 and DFAS-Columbus Survey.

141 Interview with Contract Payment Specialist, DFAS- San Diego.

142 Interview with Contract Payment Specialist, DFAS- San Diego and DFAS-Columbus Survey.

143 DoDIG Report D-2002-076, 29 March 2002.

144 Public Law 97-177, Prompt Payment Act of 1982.

Per DFAS representatives, a great deal of money is lost to Prompt Payment interest due to the fact that funding does not lie in the account specified for payment.[145]

While the appropriation is in an expired status, upward obligation adjustments may be made, subject to the provisions of the upward obligation adjustment approval process and the availability of appropriation balances to fund the adjustment.[146] If the appropriation has been closed, however, upward obligation adjustments are charged to a current year appropriation available for the same purpose.[147] Upward obligation adjustments requiring current year appropriation funding are subject to a limitation of one percent of the current year appropriation and a requirement not to exceed the total availability of the closed account. Exceeding the above limitations is an Anti-Deficiency Act violation.[148]

The reason ACRN issues arise is not necessarily due to carelessness on the part of any of the organizations involved, but it is due to the sheer method DFAS uses to affect payment on different ACRNs. In the absence of payment instructions in the contract, the payment office makes payments on a prorated basis, which is the DFAS default method of payment. Under this method there can be a number of ACRNs assigned to a specific Contract Line Item Number (CLIN). If there are multiple ACRNs under a CLIN, a very common occurrence, DFAS will pay the invoice under that CLIN using a prorated amount based on the percentage of the total funding available under each ACRN. According to both payment office and contracting office personnel, such a method is exceptionally difficult to track for specific charges against each appropriation and frequently leaves unexpended amounts on most of the ACRNs assigned.[149] In addition, a modification to the contract that would add or remove funding would cause a change to the prorated percentage for each ACRN thereby creating complex reconciliation issues.

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[145] Interview with Contract Payment Specialist, DFAS- San Diego.

[146] Ibid.

[147] DoDIG Report D-2002-076, 29 March 2002.

[148] Anti-Deficiency Act Provision.

[149] Interviews with Contract Payment Specialist, DFAS- San Diego and DCMA- San Diego.

A work around method adopted by many commands is the inclusion of specific payment instructions within the contract. One such work around is the request to affect payment on the oldest available ACRN until the funds are exhausted, then to move on to the next until all funds are used for that CLIN.[150] Quite often CLINs are modified throughout the life of the contract requiring an adjustment for invoice payment under the prorated method. In some cases these CLIN modifications do not make it to the payment office resulting in disbursement mismatches between the payment office and the accounting office records.[151]

The prorated method of payment frequently results in a particular ACRN being charged when it may not have applied, and once an invoice arrives with specific instructions to pay on that ACRN, sufficient funds are not available since it was previously charged under a prorated payment. Without sufficient funds, a full reconciliation of the contract's payment history is required by DFAS and additional or replacement funds will be requested from the buying activity. According to DFAS[152], requesting and receiving additional funds could be a lengthy process because of the time it takes the funding office to make those funds available. This delay frequently results in the contractor receiving additional money on interest due to the late payment provisions of the Prompt Payment Act.

A recent GAO audit found that many of the contracts containing a provision to pay from oldest funds first created multiple payments on ACRNs without any funds remaining in them, causing numerous accounting adjustments and potential problems in violation of the Anti-Deficiency Act.[153] The finding recommended that the proration method of payment was the best one to ensure that such over-charging of ACRNs would not occur. We believe GAO should have recommended pre-validation of available funds to ensure adequate funding, and then billing against specific ACRNs would be far more

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[150] Ibid.

[151] Interview with Contract Payment Specialist, DFAS- San Diego.

[152] Ibid.

[153] GAO Report 02-747, July 2002.

accurate. Each ACRN could then be specifically charged up to the amount intended/required by the invoice, or remaining funding could be pulled back for reuse at a far earlier date and with far more accuracy than via the proration method. In fact, the proration method almost guarantees a problem in final reconciliation due to variability of issues that could affect the proportion of funds being applied for the proration.

3. Reconciliation Issues

Prior to forwarding contracts to DFAS for final contract closeout in MOCAS, ACOs review all contract file documents to include items that have not been billed, incorrect quantities, and other matters concerning shipments and payments.[154] Contract closeout includes the necessary actions required to permanently close contracts in both MOCAS and the various accounting systems in operation at DFAS and the buying commands. As mentioned in the introduction, reconciliation of contracts is a DFAS requirement to compare and reconcile balances in MOCAS to the balances shown in the accounting records by each accounting line and then ensure that all billable amounts have been properly paid prior to pulling back any remaining funds and closing the contract file in MOCAS.[155]

The process of reconciling contract records includes analyzing, verifying, and correcting obligation and disbursement records at the payment office, buying activity, contract administration office, and accounting station to ensure concurrent accuracy. All of these systems perform related but distinct functions throughout a contract's life;[156] data in these multiple systems are often not concurrently accurate due to the inability of many of the systems to communicate in real-time.[157] Interviews with field personnel at the Defense Contract Management Agency (DCMA) in San Diego and DFAS offices in Columbus and San Diego[158] revealed that many of the problems found in contract reconciliation occur during contract award due to poorly worded contract terms, mixed

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[154] DCMA One Book, Chapter 10.

[155] AFMC Contract Closeout Guide, November 2002.

[156] Ibid.

[157] DoDIG Report D-92-076, 15 April 1992.

[158] Interview ACO, DCMA- San Diego and DFAS-Columbus Survey.

contract types (CPFF and FFP features combined), poor payment instructions to DFAS in conjunction with different contract payment specialists involved with one specific contract,[159] and poorly defined payment procedures for the contractor to follow. When combined with frequent modifications, dozens of CLINs, and multiple ACRNs under and between CLINs, it is not difficult to see how frequent errors in payment can occur and go undetected until final reconciliation is accomplished.

The current method of MOCAS reconciliation utilizes an automated program, Contract Reconciliation System (CRS).[160] This system is used to compare data from the accounting station and payment office to identify any discrepancies. CRS identifies discrepancies in obligation and disbursing information that result in unmatched disbursements such as excess funds or unliquidated obligations (ULOs) and negative unliquidated obligations (NULOs). When required, further manual research is conducted on the individual transactions to determine the nature and source of the discrepancy. This research involves reviewing source documents, e.g., contracts, modifications, payment registers, payment vouchers, etc., to learn what should have been recorded, and then recommending the appropriate correction or adjustment to bring the account back into balance and allow closure. As was discovered during GAO audits, reconciliation of some overaged contracts will likely take in excess of two years to complete given the hundreds of modifications and the proliferation of CLINs, sub-CLINs, ACRNs and various methods of payment being applied.[161]

Contractors, DCMA, and buying organizations must frequently become involved in researching contract reconciliation issues and resolving problems between accounting lines. When requested by contractors, ACOs provide them with a copy of the MOCAS disbursement and obligation histories to assist in the reconciliation. Often the contractor does not receive any consideration for the additional research or re-work required to reconcile a contract to facilitate final payment or closure of a contract. Although such

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[159] Interview DFAS-Columbus, Manager of Contract Pay Product Line.

[160] AFMC Contract Closeout Guide, November 2002.

[161] GAO Report 02-027, July 2001.

costs are difficult to ascertain for the contractor, our research indicates that contractors often spend at least as much time reconciling contracts as Government personnel do, therefore implying that thousands of man-hours of effort are required in some of the most complex contracts.

Normally, most ULOs are resolved without causing major delays in the process.[162] However, when remaining funds reside on the contract or ULOs exist that cannot be explained, full reconciliation may be required. DFAS frequently receives an invoice for payment and during pre-validation discovers that there is a NULO at the ACRN level to pay the invoice. Pre-validation does not validate that payment will be made against the correct ACRN;[163] it merely ensures that adequate funds are in place under the ACRN being cited on the invoice. Adjustments are usually made by the ACO to correct the problem by sending DFAS an explanation for the discrepancy and the action required to correct the discrepancy.[164] It is important to remember that adjustment requests are handled differently than a request for a full reconciliation. A request for a full reconciliation is required when the ACO cannot identify the disbursement problem.[165] NULOs are created when canceled funds have inadvertently been applied or payment of invoices was made citing the incorrect ACRN, as is often the case when the prorated payment method is used, as discussed in the previous section.

Full reconciliation may take from a few hours to several months to complete.[166] Our research found that full reconciliation is the third main reason code cited for overaged contracts in MOCAS,[167] resulting in an increase in the contract closeout backlog and the canceling of the respective contract's appropriated funds. Historically, ACOs have deferred final contract closeout until both the procurement system and accounting system records were reconciled. It is critical that the ACO work closely with

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[162] Interview with Contract Payment Specialist, DFAS- San Diego and DFAS-Columbus Survey.

[163] Nancy Shacklock's- DFAS-CL, NPS Contracting Seminar, 16 January 2003.

[164] Pam Franceschi's- DFAS-CO, MOCAS Presentation, August 2002.

[165] DCMA One Book, Chapter 10.

[166] Interview with DFAS San Diego Contract Payment Specialist.

[167] See Appendix C.

DFAS during contract performance and arrange quarterly reviews of payments that have occurred to ensure obligations were accurately processed. Such proactive efforts would go a long way in precluding final payment issues that will otherwise remain undetected until the contract moves into MOCAS CAR Section 2 for closeout.[168]

4. Recommendations and Conclusion

The Department of Defense should relax funding rules and change invoice submission requirements to enable DFAS and DCMA to realign disbursements by ACRN to eliminate or minimize ULOs and NULOs. Three alternatives could be: (1) to assign one ACRN per CLIN, (2) to allow payments from the contracts oldest ACRN first to avoid closing of funds, and (3) ACRN and CLIN designation on contract invoices. DFAS should monitor and provide monthly reports to funds managers identifying outstanding requests for current year funding. Continuous communication between financial managers and different DFAS groups is very important throughout the entire life of the contract.

Agencies should require contracting officers within buying commands to conduct pre-award consultation with the applicable DCMA office, funding office, and DFAS payment personnel to ensure that contract administrative requirements and payment terms are clearly laid out in the contract. At a minimum, a pre-award consultation should be required on all large procurements since they are most likely to eventually flow into an overaged status in MOCAS. The Integrated Product Team (IPT) process is working in all other elements of DoD acquisition programs, yet it has yet to be adopted at one of the points that can have the most impact.

Agencies should require buying activities to initiate monthly ULO/NULO reviews at the buying activity level and quarterly reviews at the Service level. Funds should be deobligated in the final year of availability and turned over to a Service-level Comptroller Office to provide replacement funding where it is most needed. A similar Army's

[168] DCMA One Book, Chapter 10.

financial review process lost only $1,000,000 in closing funds Service-wide last year compared to the Navy's potential loss of $522,800,000.[169]

The Office of the Secretary of Defense- Comptroller (OSD-C) should revise its policy for assigning ACRNs in order to reduce their proliferation and to keep payment terms as simple as possible. Also training between the contracting officers in the buying commands and the Comptroller's Office or funding office personnel must address the importance of reducing the number of CLINs and ACRNs assigned within a contract. CLIN/ACRN proliferation is a major cause of final reconciliation problems and creates far more complexity in resolution than is necessary.

The Office of the Assistant Secretary of the Navy for Research, Development and Acquisition (ASN (RD&A)) should draft new clauses to the FAR that require contractors to submit invoices annotated with billable amounts per ACRN and change the payment voucher format to reflect ACRN annotations.

Agencies should require that all contracts specify payment instructions for DFAS in order to reduce the problems caused by the prorated method of charging ACRNs, which is the default method of payment when multiple ACRNs are assigned to the contract. Such action would alleviate many of the reconciliation issues that arise in contract closeout.

The DoD should relax funding rules and change invoice submission requirements to enable DFAS and DCMA to realign disbursements by ACRN to eliminate or minimize ULOs and NULOs.

DFAS should change the default method of payment from a prorated method for multiple ACRNs to an "oldest applicable funding first" method. This would allow DFAS to zero an older ACRN prior to moving on to the next available ACRN, thus eliminating minor balances on each ACRN in using the proration method. This would also reduce the number of pull-back actions required and allow for the more efficient use of contract funds.

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[169] ASN(RD&A), Presentation to MOCAS Closeout Executive Group

DFAS should assign one contract payment specialist or a specialist team to handle all payment issues related to a specific contract, especially for complex or mixed-type contracts. This will allow the payment specialist to be completely familiar with the contract throughout the entire contract's life and solve any payment issues immediately making reconciliation easier and shorter.

Both obligation and disbursement information must be accurately recorded in the accounting system before the accounting station can retire their files. Given the current backlog, cooperation between all parties is more critical than ever and will encourage timely dialogue and data correction in order to minimize surprises that may appear once a contract becomes physically complete and closeout action commences. Beginning with pre-award, contracting must become a multi-functional effort to encourage communication between the buying office, the ACO, auditors, and DFAS payment and accounting representatives. This will ensure that contract payment instructions are understood by everyone involved in the payment processes and that the contract terms and conditions are understood by everyone involved in the reconciliation as well as in the overall closeout process.

B. FINAL INVOICES

The purpose of this section is to discuss contract closeout issues relating to untimely submission of final invoices. Final invoices are also called "final vouchers" or "completion vouchers." These terms will be used throughout this section, but all refer to the same document, the "final bill." The final invoice is the last invoice a contractor submits for payment of a contract. For contracts that have had progress payments, performance based payments, or commercial item financing, the final invoice typically includes the total contract cost, total amount previously billed, and the balance or credit due.[170] For contracts that have not had contract financing, the "final invoice" may be the only invoice submitted against the contract. For financed contracts, the completion voucher must be marked accordingly, indicating that it is the last invoice. Additionally,

[170] Cost Pricing Reference Guide, 2.7.3.

final invoices must be accompanied by documentation that includes ACO approval, the contractor's release, and the Audit Report/Closing Statements.[171]

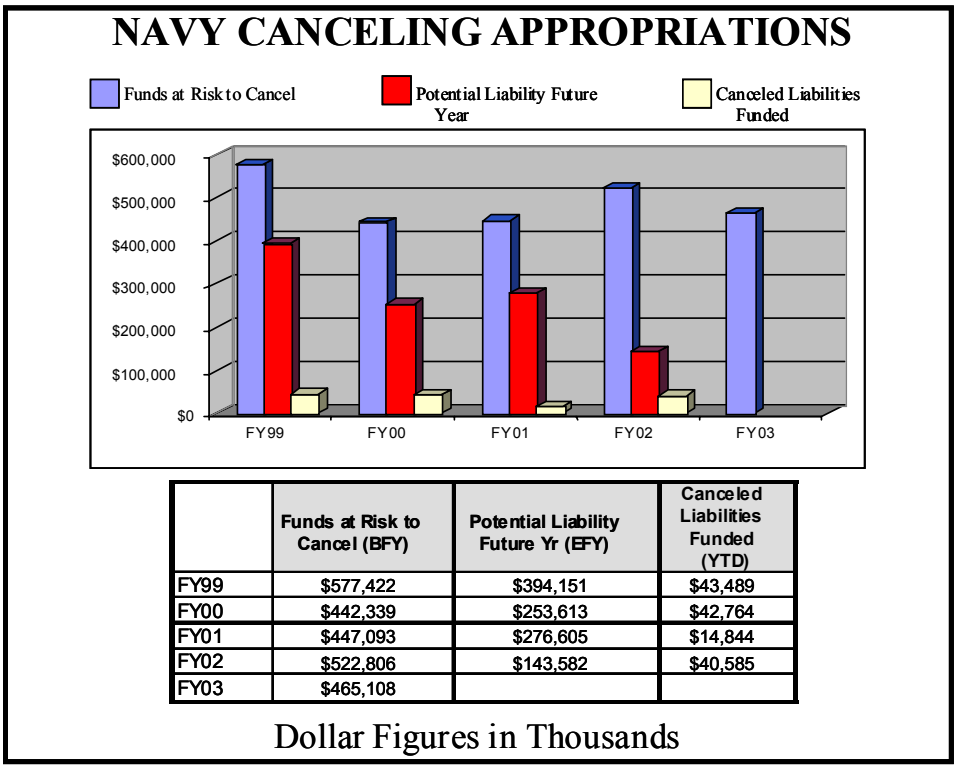
Due to the time value of money, it can be argued that delays in contractor submission of invoices actually benefit the Government, since the money remains in the Treasury. However, this is a macro viewpoint, from the perspective of the United States Treasury. On the contrary, since the Congress appropriates money by fiscal year with time limitations, untimely submission of invoices creates unfair risk on the requiring activity, especially if they must use active funds to pay for prior year obligations that have closed. This could occur if the contractor does not submit the final invoice in a timely manner. The risk is compounded since the FAR does not include a statute of limitations on submission of final invoices. Without such a statute, requiring activities must keep unliquidated funds, equal to the amount of the expected final payment, obligated on the contract until the funds either lapse or the contractor waives the right to payment and the contract is closed. Ironically, as Chapter III stated, untimely submission of final invoices also creates risk on the contractor community. If active funds are used to pay liabilities against closed accounts, the money usually comes from current programs. These programs then have fewer available funds to obligate on current or pending contracts.

Figure 16 illustrates the liability risks that the Navy incurs by fiscal year (FY). The first column shows the amount of funds that are in the last year of their expiration period and will close at the end of the FY. The second column shows the potential liability that could be incurred against current funds because contracts were not closed before funds lapsed. In other words, there are unsettled liabilities on these open contracts that could result in expenditure of current year funds. The third column shows the amount of active funds that were expended due to liabilities incurred on lapsed funds. The amounts shown in the chart are not solely caused by contractors' failure to submit

[171] Contractor Payment Information Financing Payments; [http://www.dfas.mil/commpay/contractorpayment/other.htm#top].

final invoices. Nevertheless, as part of the contract closeout process, contractors' failure to submit final invoices contributes to the dilemma illustrated by the graph.

FAR changes could reduce this risk as well as reduce the queue time involved in contract closeout. Up-front actions, in the form of local clauses and provisions, could also be implemented that would have the same effect as a FAR change.



	Funds at Risk to Cancel (BFY)	Potential Liability Future Yr (EFY)	Canceled Liabilities Funded (YTD)
FY99	$577,422	$394,151	$43,489
FY00	$442,339	$253,613	$42,764
FY01	$447,093	$276,605	$14,844
FY02	$522,806	$143,582	$40,585
FY03	$465,108		

Dollar Figures in Thousands

Source: ASN(RD&A), Presentation to MOCAS Closeout Executive Group

Figure 16. Liability Risks Navy Incurs by Fiscal Year (FY).

1. Review of MOCAS Statistics

Analysis of the February 2003 download of MOCAS CAR Section 2 indicates that approximately 16% of the contracts have not closed because the contractor has not submitted the final invoice (reason code A). This percentage corresponds to 7,432 contracts.[172] The surprising statistics appear when analyzing overaged contracts. Of the overaged population, 3,679 contracts, or 31.5%, have not closed because the contractor

[172] See Appendix C.

has not submitted the final invoice. For overaged contracts, submission of final invoice is the number one reason causing contracts to remain open in MOCAS, surpassing reason code M (negotiation of final overhead rates). It should be noted that approximately 400 of these overaged contracts in this reason code are FFP contracts, corresponding to ten percent of the population. Furthermore, nearly half of the contracts are under $100,000; three quarters of this population are under $500,000.[173] These are important facts because they show that significant effort must be expended for closing contracts that intuitively might seem easy to close.

2. Background

In direct response to the statistics presented in the previous section, the FAR was changed in February 2002 to explicitly allow contracting officers the authority to unilaterally modify contracts to reflect settled amounts and rates if a final invoice was not submitted.[174] The change also outlined extenuating circumstances that may cause the untimely submission of the final voucher,

> (b) **Within 120 days** (or longer period, if approved in writing by the contracting officer), after settlement of the final annual indirect cost rates for all years of a physically complete contract, the contractor must submit a completion invoice or voucher reflecting the settled amounts and rates. To determine whether a period longer than 120 days is appropriate, the contracting officer should consider whether there are extenuating circumstances, such as the following:
>
> (1) Pending closeout of subcontracts awaiting Government audit.
>
> (2) Pending contractor, subcontractor, or Government claims.
>
> (3) Delays in the disposition of Government property.
>
> (4) Delays in contract reconciliation.
>
> (5) Any other pertinent factors.

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[173] Ibid.

[174] Federal Register/Vol. 67, No. 27/ Part III Department of Defense, General Services Administration National Aeronautics and Space Administration, 48 CFR Chapter 1 et al Federal Acquisition Regulations; Final Rules, February 8, 2002, pp. 6118-6119.

> (c) If the contractor fails to submit a completion invoice or voucher within the time specified in paragraph (b) of this section, the contracting officer may—
>
> (1) Determine the amounts due to the contractor under the contract;
>
> (2) Record this determination in a unilateral modification to the contract.
>
> (3) This contracting officer determination must be issued as a final decision in accordance with 33.21.[175]

Through analysis of both MOCAS CAR Section 2 contracts and overaged contracts, it appears this change to the FAR has had little effect. As illustrated by Figure 17, the amount of contracts that have not closed due to final submission of invoices is following the same trend as the total rate of contract closure. A correlation coefficient of these two data sets is .9658, showing the close relationship between the two trends. The expectation is that rate of decrease of the "Reason Code A" trend line would be greater than the slope of the total contract closure rate, if the FAR change was widely implemented. This expectation especially holds true for overaged contracts. Figure 18 shows MOCAS reason code A trend compared to overaged contracts. The correlation coefficient of these two data sets is .9525, again indicating a strong relationship. The change to the FAR has the most applicability to the overaged population of contracts. Since the FAR change took effect in February 2002, widespread implementation of this procedure should result in the reason code A trend line decreasing at a faster rate than the overaged contract line trend. However, this is not the case. Interviews with ACOs revealed that the use of the authority granted in the FAR is discouraged because of possible claims.[176] Furthermore, the current practice, sending contractors notifications of intent to unilaterally modify the contract, and granting contractors extra time to submit the final voucher, has created a disincentive for the contracting community due to the extra work involved.

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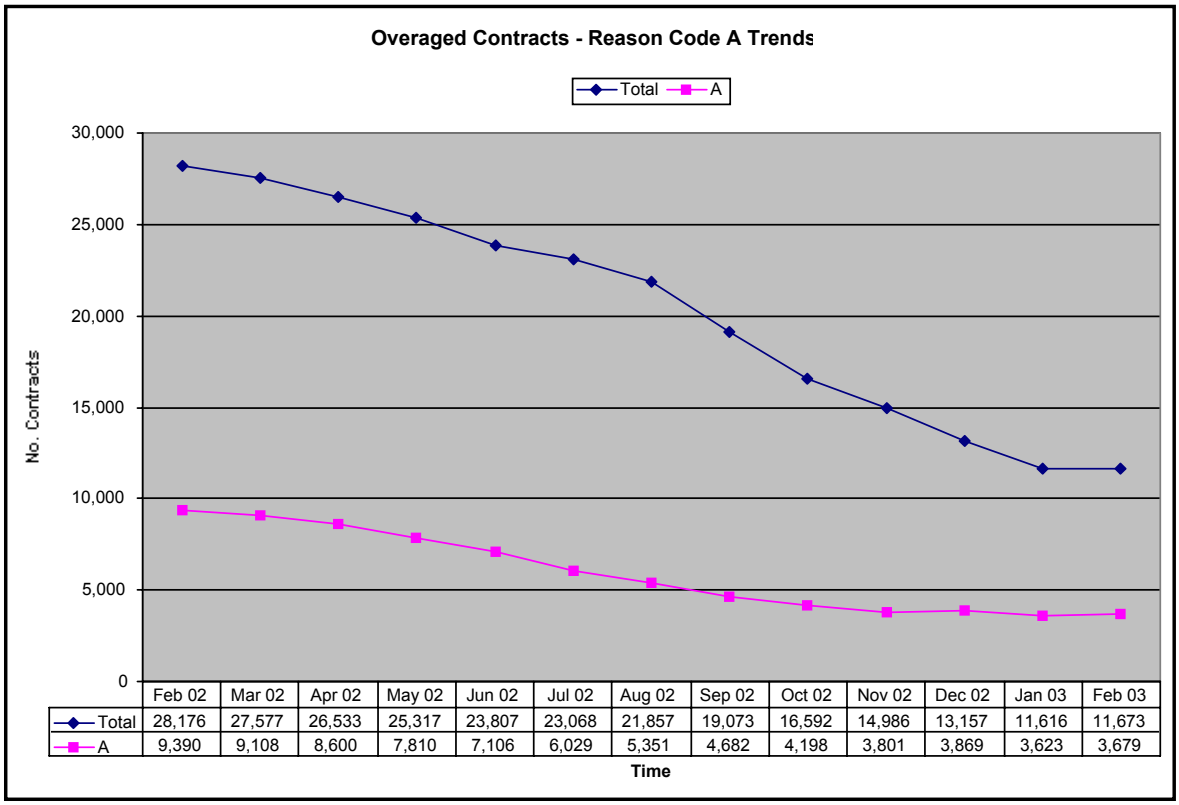
[175] FAR 42.705.

[176] Interview DCMC-Sunnyvale, Lockheed Martin Representative.

	Feb 02	Mar 02	Apr 02	May 02	Jun 02	Jul 02	Aug 02	Sep 02	Oct 02	Nov 02	Dec 02	Jan 03	Feb 03
Total	51,722	52,541	52,359	52,382	51,117	50,737	49,787	49,188	49,026	49,384	48,285	47,984	47,786
A	13,365	13,110	12,521	12,166	11,307	10,627	9,868	8,864	8,416	8,246	8,254	7,839	7,432

Source: Developed by the Authors

Figure 17. Reason Code A Trends.



	Feb 02	Mar 02	Apr 02	May 02	Jun 02	Jul 02	Aug 02	Sep 02	Oct 02	Nov 02	Dec 02	Jan 03	Feb 03
Total	28,176	27,577	26,533	25,317	23,807	23,068	21,857	19,073	16,592	14,986	13,157	11,616	11,673
A	9,390	9,108	8,600	7,810	7,106	6,029	5,351	4,682	4,198	3,801	3,869	3,623	3,679

Source: Developed by the Authors

Figure 18. Overaged Contracts – Reason Code A Trends.

3. Root Causes

Research revealed that the causes of *delay* in submission of final invoices were similar to those extenuating circumstances mentioned in the FAR: waiting for a DCAA assist audit of final indirect costs on subcontractors, waiting for subcontractors' actions, and waiting for audit of final overhead rates.[177] However, two other causes not mentioned were discovered that describe reasons for a contractor's *failure* to submit a final invoice:

[177] SAIC Interview, 01 April 2003.

- The contractor has been sufficiently paid through contract financing and the cost of preparing the final invoice is more than the final payment that would be received, or no balance is due.[178]
- The contractor owes the Government money.[179]

These two situations apply to all types of contracts, not just flexibly priced contracts. Since the sections of the FAR that were changed related to cost-type contracts,[180] contracting officers may not realize their authority to determine final voucher payments on other contract types. However, the ruling states: "Contracting officers already have the authority to determine final voucher payment amounts and issue final decisions…the new language in this rule makes that authority explicit."[181] Without explicit language applying to all types of contracts, contracting officers might not use this authority on other than cost-reimbursement contracts that remain open due to a contractor's failure to submit a final invoice.

Other than the 120 days stated in FAR[182] relating to cost-type contracts, a review of the other FAR sections and clauses applicable to invoicing and payments reveal that there is no time standard or statute of limitations for contractors to submit invoices. This may be another cause of late submission. This lack of time standard places unfair risk on the requiring activity, since they must cover these "accounts payable." Furthermore, without a statute of limitations on final invoicing, the requiring activity incurs a risk of expenditure of current funds for obligations in prior years, or incurs a risk of missing an opportunity to deobligate excess active funds if obligations exceed the final contract amount.

The precedent for a statute of limitations on time standards for submitting invoices exists. "If there is no applicable statute of limitations, and no indication that the absence means that Congress doesn't want one in that particular context, an agency may

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[178] Interview(TEL) Corporate Contracts Manager.

[179] Interview, DFAS-San Diego.

[180] FAR 42.705.

[181] Federal Register, p. 6119.

[182] FAR 42.705 and FAR 52.216-7.

include a reasonable limitation period administratively by regulation or contract…A statute of limitations may use varying terminology to make its point. Ideally, it will use language like 'received by' which leaves no room for interpretation."[183]

4. Recommendations and Conclusion

We recommend that all FAR sections and clauses relating to payments and invoicing include a 120-day period (or longer if approved in writing by the contracting officer) for submission of final invoice following either (1) physical completion, or (2) determination of final indirect cost rates. We further recommend including language in the FAR granting explicit authority for contracting officers to determine final voucher amounts for all contracts, not just contracts with indirect cost rates. We recommend implementing a statute of limitations of four years following physical completion for submission of final invoices, excluding cases where the Government caused the delay. After this four-year period, the contract would "automatically close."

There is already a precedent set in the FAR placing a statute of limitations of six years on disputes.[184] We recommend that four years be the maximum allowable time for a contractor to submit an invoice, short of a Government caused delay. This allows the contract to close before the funds lapse. The same effect could be achieved through an up-front action of including this language to this effect in local clauses and provisions to be included in future contract awards.

We also recommend that timely submission of final invoices be part of the contractor's past performance evaluation. Failing to submit, or untimely submission of a final invoice is an indication of the contractor's cooperation level, and this should be noted in their performance history.

Finally, we recommend that contracting officers analyze their overaged contracts and use the authority granted by the FAR where there are no other pending actions or extenuating circumstances, and close the contracts.

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[183] GAO *Principles of Federal Appropriations Law*, July 1991, Volume III, Ch12D.

[184] FAR 52.233-1.

While there are extraneous factors that preclude timely submission of completion vouchers, a universal 120-day rule would reduce contract closeout time by limiting queue time. The statute of limitations would limit the requiring activity's liability to pay invoices with current year funds that should have been paid with funds obligated in prior years. It also provides an "automatic close" function to prevent large backlogs of overaged contracts.

C. CONTRACT PAYMENTS USING THE GOVERNMENT PURCHASE CARD

This section does not directly address problems associated with contract closeout. Instead, it outlines potential benefits of using the Government purchase card to pay contracts during the closeout procedure. The objective of using the purchase card as a payment method is to reduce some of the payment related issues discussed earlier in this report. It could also be used as the payment method for Phase Two Batch Processing, discussed in Chapter IV, eliminating potential problems associated with DFAS payment systems by using this process. If the card was used to pay the batched negotiated settlement, DFAS could manually zero-out the contracts in the appropriate payment system rather than trying to associate payments from several contracts on one payment voucher, a practice that has proven to cause reconciliation problems.

While this study generally addresses contract closeout issues relating to DCMA and the Navy, this section is applicable to any Contract Management Office (CMO) that closes contracts. As such, we will refer to the official responsible for contract closeout as the Cognizant Contracting Officer (CKO) unless specifically addressing ACOs within DCMA.

This section begins with a discussion of authority to use the card, followed by a brief case study to show the success some contracting organizations are having using this payment method. Benefits, costs, and risks are then discussed. Concluding the section, we recommend CMOs conduct cost-benefit analysis to determine the conditions in which using the purchase card as a contract payment method offers the optimum cost-benefit ratio.

1. Authority

The FAR provides the authority for contracting officers to pay contracts. It outlines 70 contract administration functions, three of which are related to contract payments:

- Determine the allowability of costs suspended or disapproved as required, direct the suspension or disapproval of costs when there is reason to believe they should be suspended or disapproved, and **approve final vouchers**
- **Make payments on assigned contracts** when prescribed in agency acquisition regulations.
- Analyze quarterly limitation on payments statements and **recover overpayments from the contractor**.[185]

The FAR states that the purchase card may be used to make payments, when the contractor agrees to accept payment by the card.[186]

The DoD uses three primary systems to pay vendors: (1) MOCAS, (2) Vendor Pay, and (3) Government purchase card. The first two payment systems are managed by DFAS. The purchase card is the only option that contracting officers have to exercise their payment authority granted by the FAR without direct DFAS support.

2. Brief Case Study

The Fort Hood Contracting Command, Army Contracting Agency, has been using the Government purchase card as method of payment for several years. Within the last year and a half, the Command generated more money in rebates than the cost of the man-hours spent on the increased workload of reconciling the monthly statements.[187] The Command does not exclusively use this method of payment; however, in conjunction with the contractor, it makes the conscious effort to determine when the use of the card is in the best interest of both parties.

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[185] FAR 42.302 (a) (7), (13), and (17).

[186] FAR 13.01.

[187] Interview(TEL) Fort Hood Contracting Command, Support Division, 08 April 03.

The Command initiated this payment method approximately five years ago, primarily due to the problems that some vendors experienced obtaining payment from DFAS. When they initially offered to use the card as a payment method, the contractor community responded favorably, and a large number of the vendors requested payment through this method.[188] Since contracting officials were approving the final vouchers and expending man-hours assisting DFAS with reconciling contract records to allow payment,[189] the Command determined that it was easier, in some instances, to simply call the vendor and pay with the card.[190] "Using the card does not significantly increase the labor required to administer a contract, as long as the cardholder is organized."[191] During the interview with the Command's supervising ACO, he stressed that the use of this payment method is on a decreasing trend because the DFAS level of service has increased.[192]

While some of the buying agencies we interviewed used the card as a payment method, they used it in a different capacity compared to Fort Hood. To illustrate, FISC San Diego stated that they were not set up to transfer funds from the users to their command in order to use their card as a payment method.[193] The Fort Hood Contracting Command does not transfer funds. Since the cards are used exclusively for payments, the Command's cards are established without a line of accounting (LOA), the normal procedure for setting up accounts for cards to be used for purchases. The LOA used to fund the contract is the LOA used to pay the credit card bill. Furthermore, establishing the card without a dedicated LOA eliminates the possibility of double charging - charging the contract LOA and the card LOA for the same liability. Since the card used to pay the contract does not have a standard LOA, during reconciliation of the credit card statement, the cardholder indicates the LOAs from each contract as they relate to each charge on the

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188 Interview(TEL) Fort Hood Contracting Command Supervising ACO, 10 April 03.

189 Ibid.

190 Interview (TEL) Fort Hood Contracting Command, Support Division, 08 April 03.

191 Ibid.

192 Interview(TEL) Fort Hood Contracting Command Supervising ACO, 10 April 03.

193 Interview, FISC San Diego.

statement. After billing official approval, the statement is sent to the resource manager in the Comptroller Office. The resource manager then synchronizes the LOAs with the credit card charges in the Computerized Accounts Payable System (CAPS), the Army financial management system, and forwards the information to DFAS for fund liquidation to the bank. [194]

Interviews indicate that DCMA does not use the card for payment. Furthermore, as the metrics illustrated in Table 6 indicate, the Navy trails the other Services in use of the purchase card.[195] Both agencies may benefit from increased usage of the card as a payment method. The only prohibition for use of the card for payment is that the contract must authorize its use.[196] Likewise, quantities of items paid for with the card are only limited by restrictions in the quantities specified within the contract.[197] The single purchase limit on the amount that can be paid is $9,999,999.[198] The next section details potential benefits as related to contract closeout.

	Total Accounts		Fiscal Year	
Agency	No. Billing Officials	No. Card Holders	Total Sales	No. Transactions
Navy	9,361	22,592	$1,921,353,918	2,764,344
Army	26,884	101,398	$2,716,882,803	4,552,565
Air Force	21,148	77,580	$1,602,525,182	3,016,056
Defense Agencies	4,282	12,527	$562,468,500	647,474
Totals	61,675	214,099	$6,803,230,403	10,980,439
Source: DoD Purchase Card Program Office[199]				

Table 6. FY02 DoD Purchase Card Usage, US Bank and Citibank.

194 Interview (TEL) Fort Hood Contracting Command Supervising ACO, 10 April 03.

195 [http://purchasecard.saalt.army.mil/02metrics.htm].

196 Interview (TEL) DoD Purchase Card Program Management Office, 14 April 2003

197 Oscar, Kenneth J., Deputy Assistant Secretary of the Army (Procurement), Department of the Army Memorandum, Subject: Use of IMPAC Card for Payments, 12 March 1996.

198 Colangelo, Thomas W., Director, Procurement Initiatives, Department of the Army Memorandum, Subject: Use of Government-Wide Purchase Card for Payments Greater than $100,000, 30 October 1997.

199 [http://purchasecard.saalt.army.mil/02metrics.htm].

a. Benefits

Using the purchase card as a contract payment method has seven potential benefits relating to contract closeout: (1) it eliminates the queue formed when the contracting officer must wait for evidence of final payment from DFAS,[200] (2) in some circumstances, it can reduce the administrative cost of closeout,[201] (3) it provides the contractor with greater cash flow through more rapid payments, (4) it eliminates duplication of effort reconciling contract payments and supporting documentation,[202] (5) it reduces the potential for incurring prompt payment charges,[203] (6) it lowers the instances of unmatched disbursements,[204] and (7) quarterly rebates are provided to the cardholder's organization that can be used as operations and maintenance funds.[205]

Once the CKO approves the contractor's final voucher, it is sent to DFAS for payment. The CKO must then wait for evidence of final payment before the contract can be closed. This queue time may be critical in two circumstances: (1) on overaged contracts where funds are near closure, and (2) on contracts that have funds that can still be used for current obligations. This queue time can have a large variance. The ACOs interviewed stated that many of the problems they experienced closing contracts relate to DFAS functions.[206] Statistical summaries of the MOCAS database shows that reason codes Y (awaiting final notice of payment) and P (reconciliation with paying office)

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200 Interview(TEL) Fort Hood Contracting Command, 11 April 03.

201 Oscar, Kenneth J., Deputy Assistant Secretary of the Army (Procurement), Department of the Army Memorandum, Subject: Use of IMPAC Card for Payments, 12 March 1996.

202 Interview(TEL) Fort Hood Contracting Command, 11 April 03.

203 Joint Report of the Purchase Card Financial Management Team and the Purchase Card Integrated Product Team to the Under Secretary of Defense (Acquisition and Technology) and the Under Secretary of Defense (Comptroller), 26 February 1997, p. 39.

204 Oscar, Kenneth J., Use of IMPAC Card for Payments.

205 Schwemmer, Daniel J., DoD Joint Purchase Card Program Management Office, PowerPoint Briefing, *Department of Defense Purchase Card Program, Implementation of Transaction Management and Electronic Data Interchange,* [http://purchasecard.saalt.army.mil], FY 01.

206 Interviews, DCMA SAIC and DCMA San Diego, 01-03 April 2003.

account for four percent of the contracts in MOCAS CAR Section 2, or approximately 2,000 contracts in February 2003. Using the purchase card as a payment method could potentially reduce the number of contracts in this status. If the CKO pays the contract, evidence of final payment is received immediately. Therefore, the other steps in the closeout process are not held up by the queue formed while waiting for evidence of another agency's actions.

Using the card as a payment method can reduce the administrative cost of closing contracts and reduce the duplication of effort reconciling contracts for payment. DFAS charges a transaction cost of $100 per transaction on payments from the MOCAS system, $20 per transaction using the vendor pay system, but only $6 for Electronic Data Interface (EDI) transactions.[207] The capability now exists to submit the purchase card statement of account through EDI. Therefore, agencies could realize a $94 decrease in cost per transaction. Eliminating duplication of effort and lowering unmatched disbursements can achieve further administrative cost reductions.

Interviews with ACOs indicate that there is duplication of effort during the contract reconciliation step of contract closeout. The ACO often reconciles the contract and provides evidence of the reconciliation to DFAS; however DFAS conducts their own reconciliation to verify the ACO's figures because they are the authorizing officials.[208] Eliminating duplication of effort reduces administrative costs of closing contracts by reducing the total man-hours spent on this step. Payment by the purchase card would reduce the manpower costs because the CKO would pay the contract following their reconciliation, eliminating DFAS reconciliation, and allowing the rest of the closeout actions to continue.

Using the purchase card during contract closeout can also provide benefits for the contractor. Because electronic payment is issued within 72 hours,[209] the

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[207] Interview, ASN(RD&A) ACQ Personnel.

[208] Interview, SAIC, 01 April 2003.

[209] *GSA Smart Pay, The Smart Way To Do Business*, [http://www.gsa.gov/attachments/GSA_PUBLICATIONS/pub/Smartpay.pdf].

contractor can benefit from increased cash flow. By contrast, a payment through DFAS can take up to 30 days, unless there is a cost justified discount offered and earned.[210]

Use of the purchase card as a payment method reduces the potential for incurring prompt payment charges. "The purchase card contractor, as part of the services it performs under the GSA contract, provides the vendor payment function. The Department, in turn, pays the purchase card contractor on a disbursement voucher that reflects all pertinent LOAs and liquidates the underlying obligation(s)." [211] Therefore, "no reference to the Prompt Payment Act will be made in a contract or purchase order written for payment by the purchase card. Vendor payment is effected between the vendor's bank and the VISA network, not by the purchasing DoD activities."[212] Prompt payment charges would only occur when the purchase card vendor, the issuing bank, is not paid within statutory timelines and the terms and conditions of the contract. This payment method can potentially reduce the total liability.

The final benefit is a direct cash benefit. In just one quarter of FY96, the Department of Veterans Affairs earned approximately $1,900,000 in purchase card rebates.[213] CMOs can earn rebates through their use of the purchase card as a payment method. Rebates are earned based on sales volume and how fast the purchase card vendor is paid.[214] Maximum rebates can be earned at a rate of $6.60 for each $1,000 of sales volume by paying daily through electronic commerce.[215] These rebates are credited as operations and maintenance accounts in the year in which they are received.[216]

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210 Contractor Payment Information, [http://www.dfas.mil/commpay/contractorpayment/significant.htm#top].

211 Joint Study, p. 37.

212 Ibid., p. 39.

213 *What Benefits and Savings Can an Organization Realize from This Program?,* [http://www.gsa.gov/attachments/GSA_PUBLICATIONS/extpub/Org-realize_2.htm].

214 Schwemmer, Daniel J., DoD Joint Purchase Card Program Management Office, PowerPoint Briefing.

215 *What Benefits and Savings Can an Organization Realize from This Program?,* [http://www.gsa.gov/attachments/GSA_PUBLICATIONS/extpub/Org-realize_2.htm].

216 Outlined in Public Law 107-117, Sec 8103. Reference: [http://purchasecard.saalt.army.mil/discussion.htm#Q39].

The preceding paragraphs outlined the benefits of using the purchase card as a payment method; however there are costs that must be considered. The following subsection briefly outlines these costs.

b. Costs

The use of the purchase card as a payment method has associated costs and risks for the contracting agency. These costs and risks include:

- Manpower costs involved with training cardholders and billing officials.
- Manpower costs associated with administering the program.
- Manpower costs associated with audit and internal control review inspections.
- Manpower costs associated with cardholder and billing official reconciliation of monthly statements of account. This cost is a direct shift in workload from DFAS to the contracting organization.
- Manpower costs associated with resource manager and DFAS reconciliation and payment responsibilities.
- Bank interchange fee charged to the vendor.
- The risk of fraudulent use of the card.

It should be noted that there are initiatives that can be used to mitigate costs. The GSA SmartPay program has programs to fully automate invoice and payment processing,[217] and Prime Vendor programs to provide lower interchange fees compared to traditional merchant arrangements.[218] These programs are designed to mitigate the hesitancy of contractors to accept payment via the card for large dollar transactions.[219]

3. Recommendations and Conclusion

CMOs responsible for contract closeout should conduct a cost-benefit analysis to determine the conditions in which using the purchase card as a contract payment method offers the optimum cost-benefit ratio. Circumstances do occur when use of the card may be more beneficial than the traditional payment system. The purpose of this

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217 [http://www.gsa.gov/Portal/content/offerings_content.jsp?channelId=-13561&programId=8153&contentOID=119096&contentType=1004&cid=1].

218 [http://www.gsa.gov/Portal/content/offerings_content.jsp?contentOID=119459&contentType=1004].

219 Ibid.

recommendation is to raise CMOs' awareness of the benefits available, in the hope they will consciously decide on scenarios warranting its use.

Current developmental initiatives involving EDI based payment systems, such as the Wide Area Workflow – Receipt and Acceptance (WAWF-RA), offer the potential to reduce payment issues related to contract closeout without shifting workload requirements. However, there are also current initiatives underway to create efficiencies in the purchase card program. Web based applications are being implemented to:

- Reduce administrative efforts to manage the purchase card program.
- Reduce Administrative Efforts in Allocation/Re-allocation of Accounting.
- Reduce payment processing costs and prompt payment interest costs to the purchase card vendor.
- Implement real time account input and review capabilities.
- Use of the certifying official's certification to initiate the EDI transmission.[220]

There are circumstances where use of the card may provide an optimum cost-benefit ratio. Contracts with high dollar value and few LOAs offer the greatest potential for rebates exceeding manpower costs. Likewise simple contracts and delivery orders offer the opportunity to gain rebates without excessive reconciliation requirements. Furthermore, using the card can decrease the time needed to close contracts by reducing the total queue time. This payment method is not a cure-all for every payment related closeout problem; however by consciously considering the conditions where the purchase card offers the greatest cost-benefit ratio, CMOs can reduce some of the payment issues related to contract closeout.

[220] Schwemmer, Presentation.

VI. FINAL OVERHEAD RATES

Final overhead rate determination plays a pivotal role in the contract closeout process. If the closeout process is to be transformed and improved, then the entire process for determining the final overhead rates after a contract is physically complete must be reviewed. Data obtained from MOCAS CAR Section 2[221] show that the number one reason for contracts not closing within time standards is that the negotiation of final overhead rates is pending; "Reason Code M."[222] Included within reason code M are the following actions: "awaiting contractor's final indirect cost proposal," "audit of indirect costs," and "negotiations of the final overhead rates." Agencies responsible for these actions include: the contactor, DCAA and DCMA (or the CMO).[223] As previously stated in Chapter I, the February 2003 MOCAS CAR Section 2 consisted of 47,786 contracts that were physically completed but not closed out. Of those contracts, 26,224 had reason codes indicating closeout status. Within this population, 12,765 showed a status of reason code M. In other words, over 48 % of the contracts with a reason code are not closed because negotiation of final overhead rates is pending. During interviews with representatives of all stakeholder groups,[224] all agreed that the audit portion of final overhead determination was the number one cause that prevents timely contract closure.[225] The bucket plan matrix further demonstrates the fact that the audit is the most prevalent reason for delay, encompassing over 56% of the total contracts within reason code M.[226]

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221 Reference Appendix C.

222 Reference Appendix C, Reason Code Breakdown of Overaged Contracts.

223 DCMA Tasking Memo 02-196, "R2 Overaged Reason Codes".

224 Reference Appendix B and the Bibliography.

225 Interviews Conducted with SAIC, DCMA San Diego, FISC San Diego, SUPSHIP San Diego, California, 01-03 April 03.

226 Bucket Plan OPR Matrix for March 2003.

A. FINAL OVERHEAD RATE DETERMINATION PROCESS

In order to understand how the negotiation of final overhead rates can slow down contract closeout, an examination of the process, the organizations involved, and the affect these organizations have on each other and on contract closeout is necessary. "Final overhead rates" is a term used to describe the settlement of prior year indirect cost rates, one of the 15 procedures listed in the FAR section governing contract closeout.[227] The term "prior year" can be misleading. It actually refers to all indirect costs incurred since the last determination was made, which could be anywhere from a year to several years prior to physical completion. Final overhead rates are required in order to determine the actual costs incurred by a contractor on flexibly priced contracts including: cost-type contracts, incentive contracts, and time and material contracts.[228] The term "final overhead rates" is commonly misused. Since the word "final" is in the phrase, it is often assumed to mean the last overhead rate for a contract. In reality, it is the final rate established for a contractor's fiscal period.[229] Therefore, on flexibly priced, multiyear contracts, there are several "final overhead rate" determinations, one for each of the contractor's fiscal years. Final rates are used to determine the actual allocation of direct costs to a cost objective. Furthermore, the data used to determine the final rates are used to support forward pricing and billing rate estimates.[230] "Forward pricing rates, billing rates, and final rates are all part of a continuing indirect cost allocation cycle."[231] As stated, the rate determination process affects contract closeout because the prior year(s) indirect rates preceding physical completion must be settled.

At least 90 days before the end of the contractor's accounting period, the ACO must decide if the final overhead rates should be contracting officer negotiated or auditor determined,[232] using the criteria outlined in the FAR.[233] The final overhead rates should

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227 FAR 4.804-5 (a) (10).

228 DCAA Contract Audit Manual (CAM) 6-603.1.

229 FAR 42.704 (b).

230 Contract Pricing Reference Guides, 2.3.1.

231 Ibid.

232 DCMA One Book Chapter Seven.

be contracting officer determined if: (1) the business units of a multidivisional corporation are under a Corporate Administrative Contracting Officer (CACO), where the CACO is responsible for the determination, (2) business units that are not under a CACO, but there is a resident ACO who is responsible for the determination, or (3) for the business units that do not fit in the preceding two categories, the ACO will decide if the rates will be ACO or audit determined.[234]

The contractor has 180 days after the end of their fiscal year to submit their indirect cost proposal to the Government.[235] These indirect cost proposals are forwarded to the responsible DCAA field office, and the audit is programmed into the organization's work schedule system.[236] After completion of the audit, the auditor either issues the audit report to the CKO for contracting officer negotiated rates, or uses the audit report as a basis for determination with the contractor for auditor determined rates.[237] There is no difference in the audit report, regardless of the determination procedure used.[238]

From a macro perspective, DCAA uses three approaches to scheduling annual audits of incurred costs, the audit that supports the final overhead rate determination. DCAA audits are scheduled using a "6-12-6" schedule for "major contractors," those exceeding $80,000,000 of audible dollar volume (ADV).[239] Under the 6-12-6 program, the first "6" refers to the 180 days allotted to the contractor to submit their final indirect cost proposal to the Government. The "12" refers to the twelve months the auditor has to conduct the "audit of incurred costs" and issue the audit report. The last "6" refers to the six months allowed to negotiate and issue the final determination, regardless if it is contracting officer negotiated or auditor determined.[240] During this process, all interim

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[233] FAR 42.705

[234] FAR 42.705-1.

[235] FAR 42.705-1 (b).

[236] Interview with DCAA West Region Branch Manager, 03 April 2003.

[237] Interview with DCAA West Region Manager, 25 April 2003.

[238] Ibid.

[239] DCMA One Book Chapter Seven.

[240] Interview with DCAA West Region Manager, 25 April 2003.

or disallowed costs are settled; which is another of the 15 closeout procedures listed in the FAR that apply to both contract closeout, and to contract administration.[241]

DCAA uses a "6-24-6" program schedule for "non-major contractors," those with less than $ 80,000,000 of ADV.[242] The difference from the program schedule listed above is the allotted time to conduct the audit and issue the audit report; 24 months are permitted vice the 12 months required for major contractors. As illustrated in the discussion of Little's Law in Chapter II, this scheduling practice is the reason why DCMA is always "two years in arrears,"[243] in costing and closing flexibly priced contracts. It should be noted that DCAA will deviate from this scheduling system if asked to perform a priority audit.

DCAA also uses a combination of "desk reviews" and random sampling for auditing low risk contractors. Low risk contractors are those that have less than $10,000,000 ADV and a good prior history of low risk cost proposals.[244] Desk reviews are a procedure performed on cost proposals that essentially entails scanning the proposal for unusual items, significant changes from previous proposals, mathematical accuracy, and significant corporate home office allocations. After the review, if the auditor determines that the proposal continues to represent low risk to the Government, a report is issued and an appropriate adjustment of the contractor's provisional billing rates is made.[245] Using these procedures, an actual audit of incurred costs is performed on the contractor at least once every three years.[246]

The lengthy and difficult process to determine final overhead rates is the fundamental cause for reason code M. As discussed before, the top two reason codes in the February 2003 MOCAS CAR Section 2 overaged contracts are: (1) A, Submission of

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241 FAR 4.804-5 (a) (7).

242 DCMA One Book Chapter 7.

243 Interview (TEL) Regional DCMA Sunnyvale ACO, 11 April 2003.

244 CAM 6-104.

245 CAM 6-104.5.

246 CAM 6-104.1 c.

Final Invoice, and (2) M, Negotiation of Final Overhead Rates. With few exceptions, such as use of quick-closeout rates, contractors cannot submit a final invoice until the final indirect cost rates for the years preceding physical completion are settled. Therefore, the time required to process the rates often pushes the contract into overaged status.

The preceding paragraphs discussed the nuances of the final overhead rate determination procedure. The following sections will discuss ideas that will help reduce the overall time needed for overhead rate determination after a contract is physically complete; thereby increasing the rate at which contracts are closed.

B. SYNCHRONIZING AUDITS

Subcontractor related issues are a common cause preventing contract closure in a timely manner. Flexibly priced contracts often include significant work efforts by subcontractors. Henceforth, a significant amount of the costs incurred on the contract are those generated by subcontractors. Privity of contract with a subcontractor belongs to the prime contractor, which among other responsibilities should have adequate internal controls to ensure subcontractor costs are audited.[247] Through flowdown clauses, the subcontractor must grant access to its books and records to either the Government or the Prime contractor for the purpose of performing annual incurred cost audits.[248] Under certain circumstances, it is desirable for DCAA to audit the subcontractor, called an "assist audit." Examples of these conditions include instances when the subcontractor objects, due to competitive reasons, to an upper tier contractor auditing its records, and when the contractor and subcontractor have substantial financial interest in each other.[249]

Due to ADVs, contractors and their subcontractors often fall into different categories, e.g. one may be categorized a major and the other a non-major. When DCAA programs an assist audit for the subcontractor into their workload schedule, the audit may follow the 6-24-6 cycle, while the 6-12-6 program may be used for the contractor's

[247] DCAA Contract Audit Manual (CAM), 6-801.1 a.

[248] Ibid, 6.801.1c.(1).

[249] Ibid, 6-801-1.e. This section lists five examples of conditions where assist audits are desirable.

annual audit. This causes delays in the contractor's settlement of the final rates, and subsequent closure of the contract if it is physically complete. Research uncovered a delay in excess of three years can and often occurs.[250]

To prevent this, we recommend aligning the audit of the subcontractors with the audit of their associated prime contractors, so that the prime and subcontractors' final overhead rates are determined on the same schedule, especially during the last year of a contract. This synchronization will shorten the time needed to determine final rates and allow contracts to close at a faster rate. In addition, we recommend that the use of quick-closeout rates, discussed in the next section, be used to the maximum extent possible in order to determine subcontractor final rates.

1. Quick-Closeout Procedures

Quick-closeout procedures were developed in order to *require*[251] the contracting officer to negotiate the settlement of indirect costs for a specific contract in advance of determining the final indirect cost rates under the following specified circumstances:

- The contract is physically complete.
- The total unsettled indirect cost to be allocated to any one contract does not exceed $1,000,000.
- The cumulative unsettled indirect costs to be allocated to one or more contracts in a single fiscal year do not exceed 15 percent of the estimated, total unsettled indirect costs allocable to cost-type contracts for that fiscal year. The contracting officer may waive this requirement based on risk assessment.
- Agreement can be reached on a reasonable estimate of allocable dollars.[252]

The February 2003 breakdown of all MOCAS CAR Section 2 contracts reveals that approximately 91 percent of all the contracts listed with a reason code M are below $1,000,000. This does not mean that all of these contracts meet the criteria listed above. However, the question is raised as to whether quick-closeout procedures are used when the circumstances are present. It is important to note that FAR 42.708 states that the

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[250] Interview, SAIC 01 April 2003.

[251] FAR 42.708 states the contracting officer "shall" negotiate, not "may" negotiate.

[252] FAR 42.708 a. (1) – (3).

contracting officer *shall* negotiate the settlement of indirect costs when the conditions are met. The FAR does not give the contracting officer leeway; otherwise it would have stated the contracting officer *may* negotiate.

We recommend that immediate steps be taken to identify contracts that are eligible for quick-closeout procedures, and enforce the FAR requirement that states the contracting officer *shall* negotiate settlement of indirect cost for a specific contract in advance of determining the final rates. Based on the data from MOCAS CAR Section 2, it is conceivable that there is a large population of contracts that could be closed if these required procedures were used.

Furthermore, due to the significant number of contracts below $1,000,000, we further recommend steps be taken to identify the contracts that may be eligible for desk reviews, rather than full audits.

2. Blue Ribbon Contractor

Both DCMA and DCAA use risk-based procedures to identify low and high-risk contractors, and take the appropriate steps necessary to protect the Government's interest and program audits accordingly. There is a current FAR case in the final review stage that can help reduce the Government's risk and permit the expanded use of the concepts behind quick-closeout procedures and desk reviews. If approved, language in the FAR would be included to require the contractor to notify the Government of contract financing or invoice overpayments. In December 2001, the FAR was amended to require contractors to notify the Government of overpayments; however, the financing payments were not explicitly included in the ruling.[253]

As discussed earlier, forward pricing, billing, and final rates are a continuous cycle used to estimate indirect costs, allocate indirect costs for financing payments and cost reimbursements, and adjust the allocations based on actual incurred costs.[254] Billing rates are established on the basis of recent reviews, previous rate audits, or similar reliable data or experience, and are used to establish financing payment amounts on cost-

[253] Federal Register, Volume 67, Number 168, 29 August 2002, p. 55675 FAR Case 2001-005.

[254] Contract Pricing Reference Guide (CPRG) 2.3.1.

type contracts.[255] The CKO or auditor responsible for establishing the final indirect cost rates is also responsible for determining billing rates.[256] Billing rates that are too high result in financing payments and cost reimbursements that exceed actual costs. Conversely, low billing rates result in decreased progress payments and cost reimbursements and may not provide a bases to cover actual allowable, allocable, and reasonable incurred costs that are in accordance with the terms and conditions of the contract. Therefore, the billing rate should be as close to the actual projected final rate as possible to maintain fairness to both the Government and the contractor.[257] Once established, the billing rate may be prospectively or retroactively revised by mutual agreement between the Government and contractor to prevent over/underpayments. If agreement cannot be reached, the CKO or auditor may unilaterally determine the billing rates.[258] If necessary, billing rates are adjusted after the final rate for the contractor's FY is determined. If the contractor and the Government make necessary adjustments throughout the allocation cycle, billing rates near the end of the accounting period should be close to the actual rates experienced for the period.[259] Furthermore, as the contractor gains experience on the contract, it is conceivable that the billing rates continuously move closer to actual rates for contractors with stable and mature indirect cost pools.

DCAA conducts many different types of audits, including reviews of Accounting and Management systems to ensure the contractor meets or exceeds all of the requirements set forth in Section 5-102 in the DCAA Contract Audit Manual. Specifically, the following ten areas of Accounting and Management systems internal controls are certified by DCAA; (1) Environmental and Overall Accounting controls, (2) General Information Technology Systems, (3) Budget and Planning Systems, (4) Purchasing Systems, (5) Material Systems, (6) Compensation Systems, (7) Labor Systems, (8) Indirect and Other Direct Cost (ODC) systems, (9) Billing Systems, and (10)

[255] CPRG 2.6.1.

[256] FAR 42.704 a.

[257] CPRG 2.6.1.

[258] FAR 42.704.

[259] CPRG 2.3.1.

Estimating Systems.[260] DCAA's present risk assessment calls for an audit of these ten systems every two to four years because they have a significant impact on Government contract costs.[261]

Contractors with accurate rate development processes, certified accounting and management systems, a consistent history of billing rates coming close to final rates, and a history of charging only allowable, allocable, and reasonable costs should be considered low risk, regardless of the ADV generated. We name these contractors "Blue Ribbon Contractors." The concepts and procedures set forth for quick-closeout rates and desk reviews should be used for determining Blue Ribbon Contractor final rates on contracts that are physically complete. Coupled with the pending FAR case that would require contractors to notify the Government of overpayments on progress payments, the risk to the Government is low, and the effort to derive the final rates for the year(s) prior to physical completion should reflect that risk level; a full audit should not be necessary. Therefore, we recommend that Blue Ribbon Contractors be identified in the inventory of contractors listed in MOCAS CAR Section 2, and immediate steps be taken to determine the final rates using the procedures outlined for quick-closeout and desk reviews.

The desk review procedure can be used to check the contractor's proposal, and negotiation can be conducted to establish the final rate for that contract. The limitations placed on the application of quick-closeout procedures should not apply to Blue Ribbon Contractors. However, we recommend that the final rate determination be applied only to the contract it covers, unless the cognizant Government official believes that the risk is low enough to apply the rate to all contracts.

The time, effort, and risk of fund expiration or closure do not warrant the use of full audit procedures for Blue Ribbon Contractors. By implementing these recommendations, the level of contracts in MOCAS CAR Section 2 can be reduced. Furthermore, by establishing a standard or precedent for becoming a Blue Ribbon Contractor, some companies interested in conducting business with the Government will

[260] DCAA Contract Audit Manual 5-102, January 2003.

[261] Ibid.

strive to meet this high standard, which could reflect positively on their past performance evaluations. The end result could be lower risk to the Government, because a large population of contractors striving for this high standard would have effective cost estimating systems.

3. Independent Audits and Audit Assurance

The precedent has already been set to allow an audit of incurred costs be conducted by an independent commercial auditor. For example, prime contractors are responsible for auditing, or ensuring an audit of incurred costs is conducted on subcontractors. The Government accepts these audit results, even if DCAA did not conduct the audit. Since this precedent has already been set, the concept of allowing commercial accounting firms to audit annual incurred costs should be expanded in order to reduce the backlog indicated by reason code M in MOCAS CAR Section 2.

During the conduct of our research, interviewees stated that there is nothing inherently Governmental about the process DCAA uses to conduct audits.[262] Therefore, a commercial accounting firm could conduct the annual audit of incurred cost required to support the determination of final rates necessary to settle the prior year(s) indirect costs preceding physical completion of a contract. Currently, the Securities and Exchange Commission (SEC) requires an annual audit of financial statements on publicly traded companies.[263] The commercial accounting firm responsible for this audit examines the company to see if they have adequate internal controls, as well as check the accuracy of the company's financial transactions under Generally Accepted Accounting Principles (GAAP). In contrast, the DCAA audit checks to see if a company is following the Cost Accounting Standards (CAS) and cost principles outlined in the FAR. Although these are two very different types of audits, interviews indicate that the established accounting firms, e.g. Price Waterhouse Cooper and KPMG, have the capability to conduct audits to

[262] Interview with SAIC,DCMA San Diego, FISC San Diego, SUPSHIP San Diego, California, 01-02 April 2003.

[263] Interview, Shu Liao, Professor, Naval Postgraduate School, Monterey, California, 06 May 2003.

support the determination of final indirect cost rates, and could possibly do it at a lower cost.[264]

Both the Government and the contractor could benefit from an independent commercial accounting firm auditing a contractor's annual incurred costs. The Government could benefit by having a quicker turnaround time on the audit, which would decrease the cycle time to determine the final rates and close contracts. The contractor could benefit from a reduced disruption and cost by having one audit firm conduct both the SEC required audit and the audit of incurred costs simultaneously.

Conceivably, an audit program using a commercial accounting firm could include the following procedures.

- The contractor would submit the proposed final rates to the cognizant Government official within 180 days after the end of its fiscal year, in accordance with established procedures.
- The contractor would hire an approved accounting firm to conduct the annual audit of incurred costs using DCAA procedures and regulations within 90 days after the submission of the final indirect cost rate proposal. The cost of this audit would be considered allowable and allocable to the contract(s) covered.
- The accounting firm would submit an audit report within 30 days to the cognizant Government official, the CKO if contracting officer determined rates are used, or the auditor, if auditor determined procedures are used.
- The auditor within the responsible DCAA field office could review the audit report and issue an opinion within 30 days. In this role, DCAA would provide "Audit Assurance," the concept being derived from the current Government practice of quality assurance.
- Negotiations would then determine the final rate no later than the time frame established by current practice of six months.

If this procedure were implemented, a 6-12-6 or a 6-24-6 scheduling cycle is reduced to a 6-5-6 program cycle. This would allow an increased rate of contract closure and a reduction of the risk of fund closure.

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[264] Interview with SAIC,DCMA San Diego, FISC San Diego, SUPSHIP San Diego, California, 01-02 April 2003.

The DoD currently accepts a commercial firm's audit of incurred costs on subcontractors, even if it was only performed by the prime, which is not an independent accounting firm. Likewise, the SEC accepts a commercial firm's audit of financial statements of publicly traded company. Furthermore, standard industry practice is to accept these independent audits, and billions of dollars worth of investment decisions are made with the assumption that the independence of the auditing firm provides a sufficient check and balance.

We recommend that a pilot program be developed to test the concept of using commercial accounting firms to conduct annual audit of incurred costs. Conceivably, this procedure could be used for contractors with ADV less that $80,000,000, allowing DCAA to concentrate on the population of higher-risk contractors, those with ADV greater than $80,000,000, or on other audits to reduce the overall risk to the Government. The reduction in time to determine the final overhead rates using this procedure could reduce the time to close contracts as well as reduce the costs.

C. RECOMMENDATIONS AND CONCLUSION

In summary, we recommend aligning the audit of the subcontractors with the audit of their associated prime contractors, so that the prime and subcontractors' final overhead rates are determined on the same schedule, especially during the last year of a contract. This synchronization will shorten the time needed to determine final rates and allow contracts to close at a faster rate. We recommend that immediate steps be taken to identify contracts that are eligible for quick-closeout procedures, and enforce the FAR requirement that states the contracting officer *shall* negotiate settlement of indirect cost for a specific contract in advance of determining the final rates. We recommend that Blue Ribbon Contractors be identified in the inventory of contractors listed in MOCAS CAR Section 2, and immediate steps be taken to determine the final rates using the procedures outlined for quick-closeout and desk reviews. Finally, we recommend that a pilot program be developed to test the concept of using commercial accounting firms to conduct annual audit of incurred costs.

The final rate determination procedure and current scheduling practices have a big impact on the contract closeout process. In our research, we found that the negotiation of final overhead rates was the leading reason contracts were physically completed but not closed. By implementing the recommendations above, cycle time as well as cost reduction could be achieved without significantly increasing the Government's risk. A reduced cycle time for determining the final overhead rates will reduce the overall turnaround time, thereby decreasing the average inventory of physically completed contracts.

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VII. SUMMARY OF RECOMMENDATIONS AND CONCLUSION

A. SUMMARY OF RECOMMENDATIONS

Each chapter in this report discussed recommendations to improve contract closeout within the DoD. This chapter summarizes and restates the recommendations from the previous chapters and groups them into three categories: (1) recommendations to be implemented in the near term and thus do not require any regulatory changes, (2) recommendations that can occur in the intermediate term and thus may require some changes to the FAR or other regulatory and policy guidance, and (3) transformational recommendations that will require significant modification to the existing regulations and may require statutory relief for changes.

1. Near-Term

MOCAS Accuracy: Acquisition personnel should be trained about the importance of completing all of the information in the MOCAS system. The missing data fields in metric reports would therefore be alleviated, thus making analyses more reliable. In addition, DCMA personnel should be instructed to use "Overaged Reason Codes" for all contracts contained in MOCAS CAR Section 2 if upper management will continue to use that field as the primary means of collecting data on the status of contract closeout.

Queuing Disciplines: In order to optimize the speed to risk ratio CMOs should group physically complete contracts into two categories, low-risk and high-risk, and use a hybrid Shortest Processing Time (SPT)/Priority-Based Discipline (PBD) queuing discipline to continuously work to reduce the inventory of contracts to be closed.

Phase One Batch Processing: Immediate implementation of Phase One batch processing initiative to prove the concept and establish procedures that will aid in moving on to other phases. Several contractors should be contacted to discuss the viability of this method of negotiated settlement. Batch processing offers a negotiated settlement option to close complex contracts that would otherwise require thousands of hours in reconciliation efforts to reach a "to the penny" accounting of all contract transactions.

This method takes into account the costs to the Government and to the contractor in affecting closeout.

Pre-Award Consultations: Require pre-award consultation by the PCO with the applicable DCMA office, local comptroller, and DFAS payment personnel to ensure that contract administrative requirements and payment terms are clearly laid out in the contract. At a minimum, a pre-award consultation should be required on all large procurements since they are most likely to eventually flow into an overaged status in MOCAS. The Integrated Product Team (IPT) process is working in all other elements of DoD acquisition programs; however, it has yet to be adopted at one of the points that can have the most impact.

Enhanced Funding Reviews: Initiate monthly ULO/NULO reviews at buying activities and quarterly reviews at the Service-level. Funds should be deobligated in the final year of availability and turned over to a Service-level comptroller office to provide replacement funding where it is most needed. The Army's financial review process lost only $1,000,000 in closing funds Service-wide last year compared to the Navy's potential loss of $ 522,800,000 in FY03.

Training: Conduct training between the contracting officers in the buying commands and the comptroller office or funding office personnel to stress the importance of reducing the number of CLINs and ACRNs assigned within a contract. CLIN/ACRN proliferation is a major cause of final reconciliation problems and creates far more complexity in resolution than is necessary.

DFAS Assignment of Contract Payment Specialist: DFAS should assign only one contract payment specialist to handle all payment issues related to a specific contract, especially for complex or mixed type contracts. This will allow the payment specialist to be completely familiar with the contract throughout the entire life of the contract and enable them to resolve any payment issues immediately, thus making reconciliation easier.

Invoice Submission Part of Past Performance Evaluation: Include timely submission of final invoices as a part of the contractor's past performance evaluation. Failing to submit, or untimely submission of final invoice is an indication of the contractor's cooperation level, and thus should be noted in their past performance history.

Purchase Card Payments: Contracting organizations should conduct a cost-benefit analysis to determine the conditions in which using the purchase card as a contract payment method offers the optimum cost-benefit ratio.

Audit Synchronization: Align the audit of subcontractors with the audit of their associated Prime contractors. This would ensure the prime and subcontractors' final overhead rates are determined at the same time and thus reduce queue times.

Quick-Closeout Rates: Take immediate steps to identify contracts that are eligible for quick-closeout procedures, and enforce the FAR requirement that states that the contracting officer *shall* negotiate settlement of indirect cost for a specific contract in advance of determining final rates. Based on the data from MOCAS CAR Section 2, it is conceivable that there is a large population of contracts that could be closed if these required procedures were used.

2. Intermediate

Phase Two Batch Processing: Implement more proactive financial management reviews of unliquidated balances in obligated funds should be conducted. Improved oversight will increase the likelihood that funds will be removed from contracts as they become available, vice waiting until they are nearer to expiration before being considered for deobligation.

Invoicing by ACRN: ASN(RD&A) should draft new clauses to the FAR that require contractors to submit invoices annotated with billable amounts by ACRN and change the payment voucher format to reflect ACRN annotations.

Contract Payment Instructions: Require all contracts to specify payment instructions for DFAS in order to reduce the problems caused by the prorated method of charging ACRNs, which is the default method of payment when multiple ACRNs are

assigned to the contract. Such action would alleviate many of the reconciliation issues that arise in contract closeout.

FAR Change – Invoicing and Payment Terms: Change FAR sections and clauses relating to payments and invoicing to include a 120-day period (or longer if approved in writing by the contracting officer) for submission of final invoice following either (1) physical completion, or (2) determination of final indirect cost rates. Furthermore, language in the FAR should be added granting explicit authority for contracting officers to determine final voucher amounts for all contracts, not just contracts with indirect cost rates.

FAR Change – Statute of Limitations: Recommend that four years be the maximum allowable time for a contractor to submit an invoice, short of Government caused delay. After this four year period, the contract would "automatically close", thus allowing the contract to close before the funds lapse. This will be a change to the existing policy established in FAR 52.233-1, which only places a statute of limitations of six years on disputes.

3. Transformational

Transforming the Organizational Structure. In order to achieve the long-term outcome of eliminating future backlogs of overaged contracts, contracting organizations that manage high volumes of contracts should add multifunctional contract closeout sections in their organizational structure. To optimize effectiveness, each team should have the vested authority to accomplish all the closeout steps, including contract administration authority, property disposition authority, audit authority, and payment authority. Organizations that manage low volumes of contracts can benefit from this concept by establishing the closeout team on a regional basis. If Government personnel resources are unavailable, then these closeout teams can be staffed with a combination of Government and contractor personnel.

Phase Three Batch Processing: The Navy should, in concert with other Services, seek enhanced reprogramming and transfer authority that is strictly limited to applying funds to overaged contracts in order to reduce the current backlog. Current

limits placed upon reprogramming and realignment of program funding are necessary in the front-end and administration of program activities, but once contract closeout is involved, the large degree of uncertainty regarding contract reconciliation calls for greater flexibility in managing funds. The goal is to close the Government's contracts in an efficient and cost-effective manner rather than to rely on a "to the penny" method of expenditure reconciliation.

Oldest Available Funding First: Change the default DFAS method of payment from a prorated method for multiple ACRNs to an "oldest applicable and available funding first" method. This would allow DFAS to zero an older ACRN provided for the same purpose prior to moving on to the next available ACRN, thus eliminating minor balances on each ACRN in using the proration method. This would also reduce the number of pull-back actions required and allow for the more efficient use of contract funds.

Flexible Reprogramming Authority: Relax funding rules to enable DFAS and DCMA to realign disbursements by ACRN to eliminate or minimize negative ULOs up to a threshold of $10,000. This reprogramming would allow for more efficient payment on contracts and eliminate dozens of contract modification to move small amounts of funding between ACRNs.

Blue Ribbon Contractor Program: Blue Ribbon Contractors who have accurate rate development processes, certified accounting and management systems, a consistent history of billing rates coming close to final rates and a history of charging only allowable, allocable, and reasonable costs should be considered low risk, regardless of ADV generated. These contractors should be identified in the inventory of contractors listed in MOCAS CAR Section 2, and immediate steps should be taken to determine their final rates using the procedures outlined for quick-closeout and desk reviews.

Commercial Audit Firm: Recommend that a pilot program be developed to test the concept of using commercial accounting firms to conduct annual audit of incurred costs. Conceivably, this program could be used for contractors with Audible Dollar Value (ADV) less than $ 80,000,000, allowing DCAA to concentrate on the population of

higher-risk contractors, those with ADV greater than $ 80,000,000, or on other audits to reduce the overall risk to the Government.

B. AREAS FOR FURTHER RESEARCH

In this report we attempted to study the areas within the contract closeout that we identified as the leading cause for contracts being physically complete and not closed out. In the course of our research we found several additional areas in contract closeout that were interesting, but beyond the scope of our report. This section addresses some of the areas that we thought were worthy of consideration for further research.

Development of the Cost Model: Our project group listed the tasks associated with contract closeout involving the key stakeholders, but it does not go into sufficient detail to estimate the total cost of contract closeout. A further study is required to refine the existing model to make it a more useful estimating tool for both cost data and workload data for organizational management.

Ratio of Permanent Contract Closeout Personnel: Separate research is needed to determine the optimal ratio of permanent contract closeout personnel to contracts needed to ensure contracts are closed within the prescribed time frame. The personnel ratio will allow for forecasts to adequately anticipate the funding required for these closeout teams.

Adequacy of MOCAS Replacement IT Systems: Conduct in-depth analysis as to the adequacy of the IT systems proposed to replace the aging MOCAS system. Particular attention should be placed on determining whether replacement systems can better align DoD contract award, contract administration, accounting, and payment systems.

Cost–Benefit Analysis for Closing Contracts Under $100,000: Research conducting a cost-benefit analysis as to whether or not contracts under $ 100,000 in value should be audited at all. Our research indicated that this audit is a significant delay in closing contracts under $ 100,000. Is the small dollar value at risk significant enough to expend the time, effort and resources on these contracts?

Outsourcing Contract Closeout Function DoD-Wide: Study the feasibility of a permanent DoD-wide decision on outsourcing the contract closeout function. Many activities have commenced hiring contractor personnel to conduct the research and follow-up required for contract closeout. Many issues arise such as whether this is an inherently Governmental function or whether the Government may allow access to contractor proprietary information without written consent. An option, of course, is to implement a clause stating that a third party, non-Governmental organization may be used to review contracts in a closed status.

Facilities-Type Contracts for Contracts with Government Property: Review the property procedures to determine if a facilities-type contract should be established for major contracts that involve Government property. In this case, all property issues are transferred to the facility contract vice each individual contract with property provisions. This will streamline the closeout of each individual contract by removing the property delay. The facilities-type contract would absorb all property issues and eliminate property as a cause for delays in closing contracts.

Direct-Charge Buying Commands for Administrative Services: Research the possibility of direct-charging buying activities for administrative, audit and payment services for the hours expended by DCMA, DCAA, and DFAS, respectively. The estimation model from this report could be used to establish more accurate costs associated with contract closeout.

C. CONCLUSION

Although contract closeout is frequently viewed as a process independent from contract award and administration, it is actually a normal part of the contract life cycle. Every contract will eventually require some form of action to affect closeout and the actions that occur during the pre-award and administration phases have a profound impact on the likelihood that any given contract will close in accordance with the FAR timelines. Unfortunately, DoD stakeholders are aligned to optimize their own process and management goals vice aligning to reach the overall goal of efficient contract

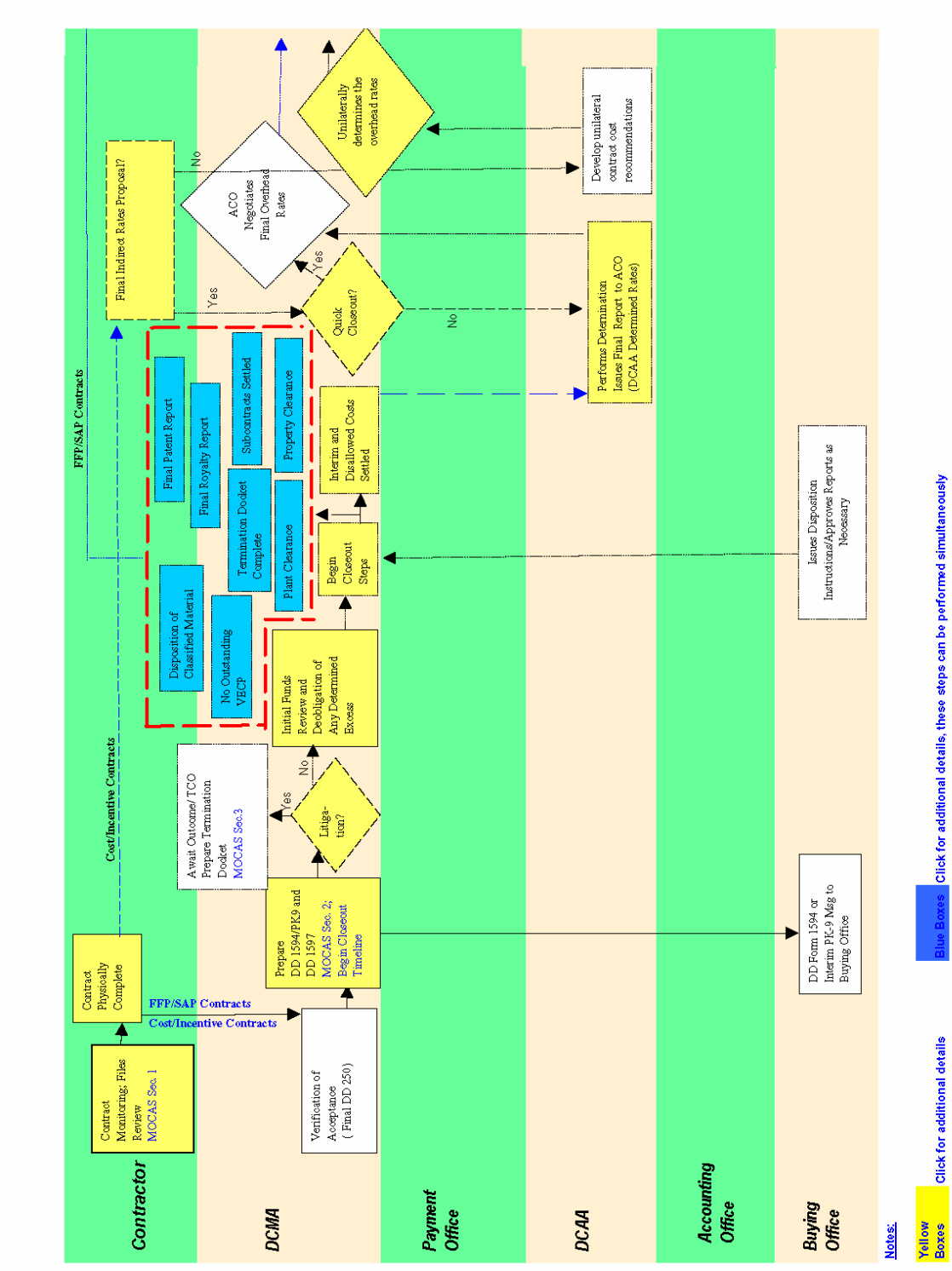
closeout and the elimination of overaged contracts. Such sub-optimization is a significant cause of the backlog.

The most important recommendation forwarded in this report is the necessity to better train the acquisition workforce and cross train them with the comptroller community and personnel engaged in contract payment. Better understanding between the DCAA, DCMA, DFAS, buying organization contracting personnel, and buying organization comptroller organizations would likely eliminate many of the problems we observed. There is a marked lack of incentives present for the contractor and the Government agencies involved in closeout and there are few, if any, performance measures in place to grade employees on their efficiency in managing contracts through administration to closure.

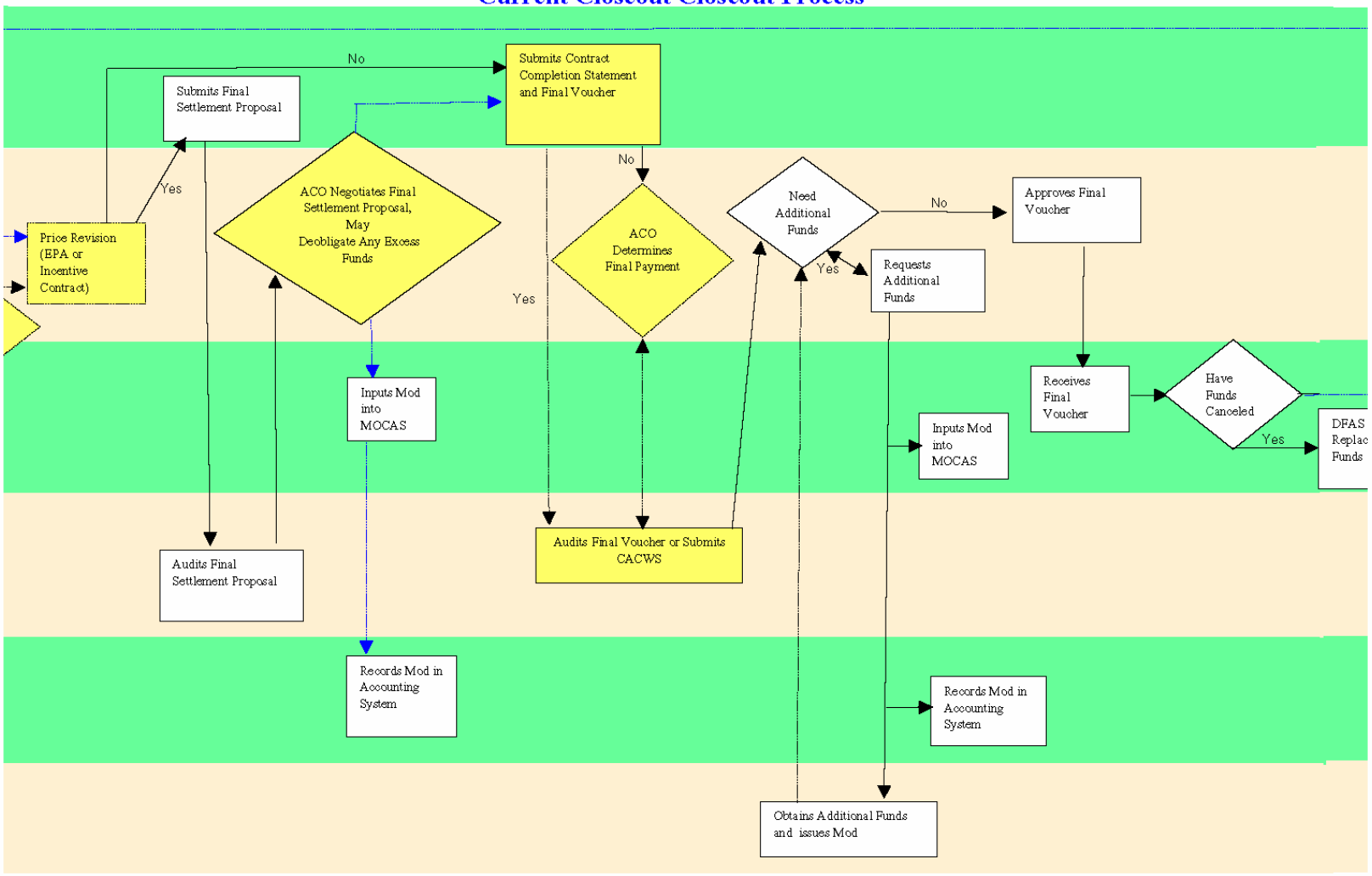
This report addressed only a few of the hundreds of issues that arise in looking at the overall contracting process and attempts to recommend a few courses of action that can impact the overall efficiency of the process. In order to affect true transformation, however, the entire spectrum of DoD business practices should be reviewed. During our research, we determined that a significant portion of the problems discovered in contract closeout is the result of poor coordination and sub-optimization of processes. The actions of one organization may seem efficient and effective in that organization's eyes, but may have a significant and unintended adverse impact on the actions of another organization. Given the state of the current contract closeout system in DoD, true transformational efforts are necessary to integrate the contracting and contract payment/accounting functions.

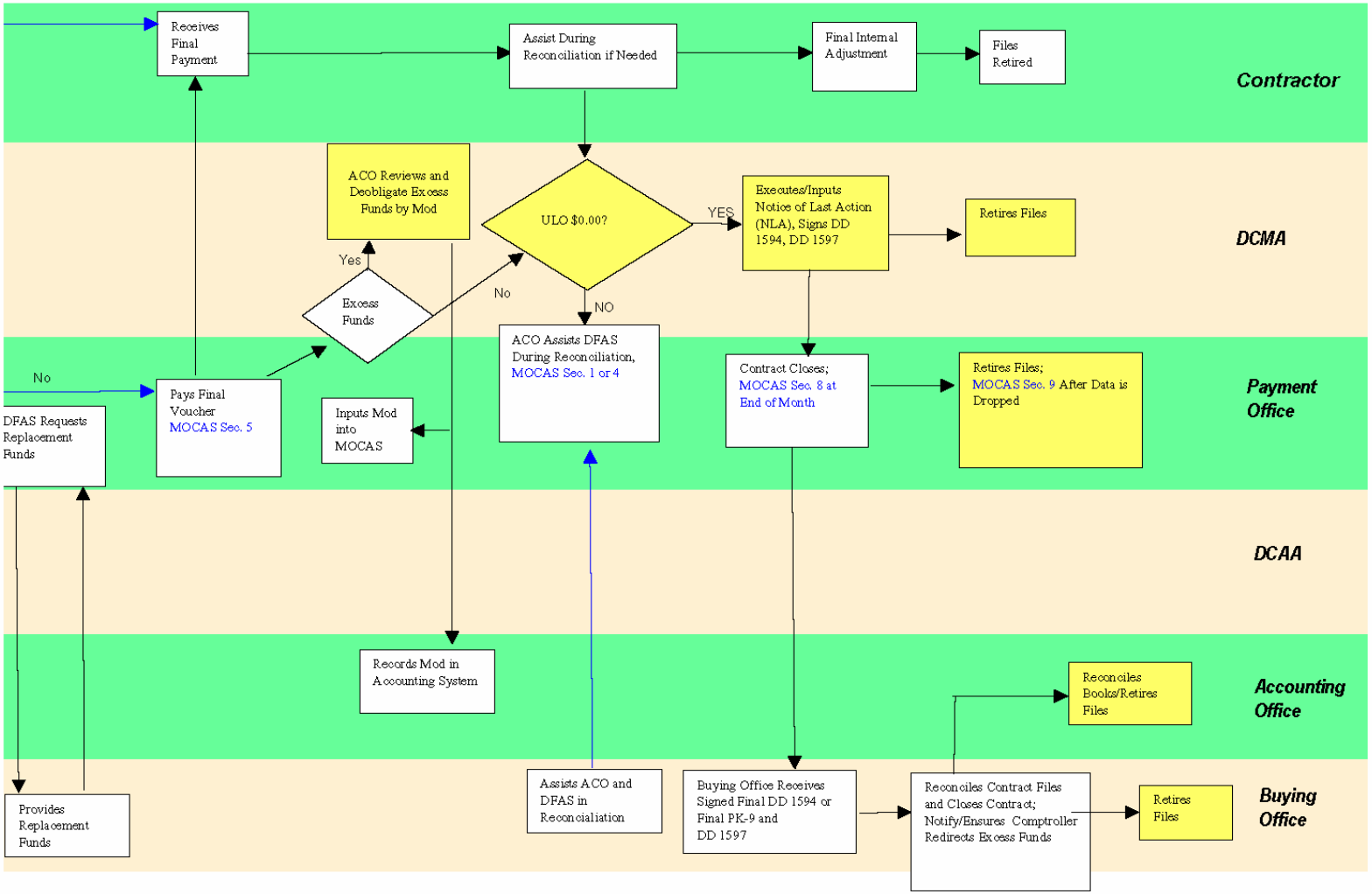
In the near-term, the recommendations forwarded in this report are viable methods of tackling both the in-flow of physically completed contracts while simultaneously offering methods of reducing the backlog. It is also essential for DoD to conduct a detailed review of its information technology requirements and personnel requirements in order to request the resources necessary to solve the contract closeout issue in perpetuity.

APPENDIX A. THE EXISTING CLOSEOUT PROCESS



Current Closeout Closeout Process




Receives Final Payment
Assist During Reconciliation if Needed
Final Internal Adjustment
Files Retired
Contractor
ACO Reviews and Deobligate Excess Funds by Mod
ULO $0.00?
YES
Executes/Inputs Notice of Last Action (NLA), Signs DD 1594, DD 1597
Retires Files
DCMA
Yes
Excess Funds
No
NO
ACO Assists DFAS During Reconciliation, MOCAS Sec. 1 or 4
Contract Closes; MOCAS Sec. 8 at End of Month
Retires Files; MOCAS Sec. 9 After Data is Dropped
No
DFAS Requests Replacement Funds
Pays Final Voucher MOCAS Sec. 5
Inputs Mod into MOCAS
Payment Office
DCAA
Records Mod in Accounting System
Reconciles Books/Retires Files
Accounting Office
Provides Replacement Funds
Assists ACO and DFAS in Reconcialiation
Buying Office Receives Signed Final DD 1594 or Final PK-9 and DD 1597
Reconciles Contract Files and Closes Contract; Notify/Ensures Comptroller Redirects Excess Funds
Retires Files
Buying Office

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APPENDIX B. STAKEHOLDER ANALYSIS

A. KEY PLAYERS

In order to address the issues affecting an efficient and timely contract closeout, the Department of Defense (DoD) must plan a strategy resulting in part from an assessment of its external environment. This strategy must draw support from all the organizations, groups, or individuals involved in the contract closeout process if changes are going to be implemented successfully. A stakeholder analysis is an effective tool to accomplish this.

B. WHY A STAKEHOLDER ANALYSIS?

A stakeholder analysis is the initial step in building the relationships needed for the success of a participatory change, initiative or policy. It could provide DoD with a starting point by establishing which groups to work with and setting out an approach to achieving change in the contract closeout process. A stakeholder analysis also aids in assessing the external environment in which the implementation of those changes, initiatives, or policies will take place. This analysis will, at a minimum:

- Identify and define the characteristics of key stakeholders
- Draw out the interests of the key stakeholders in relation to the issue
- Identify conflicts of interests between stakeholders, to help manage such relationships during the course of the change initiative
- Help to identify relations between stakeholders that may enable "coalitions" of initiative sponsorship, ownership, and cooperation
- Assess the capacity of different stakeholders and stakeholder groups to participate
- Help to assess the appropriate type of participation by different stakeholders, at successive stages of the change initiative cycle, e.g. inform, consult, partnership -- all of these have different possible outcomes.

Our analysis centered on the potential desire of each stakeholder organization to actively participate in transforming the contract closeout process. We used the following steps to facilitate our stakeholder analysis; the results are shown in Table 7.

- Identification of the major stakeholder groups
- Determination of interests, importance and influence
- Establishment of strategies for involvement

Stakeholder	Interests on the Initiative	Influence on the Initiative	Strategy for Obtaining Support
Military Services	++	M	Partnership
DCMA	+	M	Partnership
DCAA	o	M	Partnership
DFAS	+	M	Partnership
USD (C)	o	H	Partnership
USD (AT & L)	++	H	Consultation
Congress	+	H	Consultation
Contractors/Industry	o/-	L	Partnership

Legend:

Interest in the Issue	Influence on the Transformation of CCO
++ Strongly in favor	H High; has power to influence or create change, formally or informally
+ In favor	
o Indifferent or undecided	M Medium; could achieve change with level of influence
- Opposed	
-- Strongly opposed	L Low; little influence to create change
Source: Developed by the Authors	

Table 7. Stakeholder Analysis

C. THE MILITARY SERVICES

The Military Services themselves may have a great desire to transform the contract closeout process, although this group can also be broken down into two distinct sub-groups: the requesting command organization, and the buying/contracting organization within the Service. The requesting command has the greatest stake in terms

of potential benefits of transforming the contract closeout process since they are most directly impacted if they are able to more effectively recoup funding from contracts in MOCAS CAR Section 2. In fact, they could potentially benefit in terms of up to $500,000,000 per year if they are able to reutilize appropriations that would otherwise close each fiscal year.[265] In addition, they would also benefit in terms of not having to provide up to $50,000,000 per year in replacement funds[266] to pay for expenditures on older contracts where the appropriations that funded those contracts has closed and is no longer available. Unfortunately, the requiring commands have the least amount of influence in affecting more efficient contract closeout. Even the contracting offices within the requirements commands have minimal action they can complete without having to interface with other stakeholders in the process, possessing less than five percent of the total actions required in the closeout process for overaged contracts.[267]

The second Services group consists of the buying/contracting side of the organization. There is minimal incentive to ensure that overaged contracts are effectively closed out and funding is returned, since most contracting offices are separated from the requirements side of the organization and would not directly benefit from any funding that is returned. In addition, closeout is far from being a priority at most buying commands due to the pressures involved in procuring active requirements and administering current contracts.[268] Although there is a great desire to ensure the Government's funds are spent wisely, that concern does not extend to ensuring funds are returned to requirement offices in a timely manner so they can be expended or obligated on other needs. Focus is not on contract closeout. Indeed, several systems commands have completely contracted out the contract closeout function due to a desire to ensure that such a time-intensive process does not impact current workload. Other systems commands have devoted significant resources towards solving the problems in overaged contracts due to their concern for being able to return as much funding as possible to their

[265] ASN(RD&A) Brief to the MOCAS Closeout Executive Steering Group in April 2003.

[266] Ibid.

[267] MOCAS OPR Matrix, "Buckets of Responsibility," for February 2002 through March 2003.

[268] Interviews with several PCO organizations.

buying offices. Such an organizational focus vice a single office myopic view of the benefits of recouping funding prior to its closure is what is required in addressing the transformation of the closeout process.

D. DCMA

DCMA has a major stake in any actions that are taken to modify the contract closeout process, since the vast majority of the actions required to affect closeout are owned by this stakeholder, as identified by the existing process chart in Appendix A. Even though DCMA is the organization that expends the greatest amount of effort, in terms of workload, in order to close physically completed contracts, they also have the least incentive to do so. As previously stated throughout this report, contract closeout receives the least amount of emphasis of the three priorities for each DCMA office. As we determined through multiple interviews, the priorities are; 1) active contract administration, 2) pre-award work in preparation for new contracts for existing customer requirements, and 3) contract closeout actions. With an incredible workload given their available personnel resources, it is easy to see how contract closeout quickly falls out of the list of priorities. As stated in multiple GAO reports, DCMA is under-staffed and under-funded for the task at hand. Care must be taken that the first two priority issues for DCMA do not suffer when additional resources are poured into contract closeout due to increased pressure from DoD leadership to eliminate overaged contracts. DCMA does have a great deal to gain, however, from transformation in the contract closeout process. For example, far fewer personnel hours will be required to address the closeout issue, permitting more time to focus on the other two DCMA priorities.

E. DCAA

DCAA is an interesting case as a stakeholder. DCAA's only benefit in CCO transformation would be their ability to focus more resources on their current contractor audit program. Recent realignments within DCAA have already bundled periodic auditing of incurred cost audits along with other audits, thus making changes nearly transparent in terms of the time required for affecting final audits (which are rarely done any more). DCAA also does not report to USD (AT&L), making them a completely separate stakeholder that cannot be influenced from the acquisition community alone.

Any changes that impact DCAA will have to come from the USD (C) Office or higher. For several of the recommendations presented in this report, there will likely be a great deal of resistance encountered from DCAA due to the impact on their workforce. Indeed, if commercial auditing or self-certification becomes reality, many audit requirements will quickly disappear, leaving doubt as to the necessity for such a large audit organization.

F. DFAS

DFAS is another organization that falls outside of the control of USD (AT&L). DFAS-Columbus' primary metric for measuring organizational effectiveness is the timeliness and accuracy of payments being made.[269] Contract closeout is not an organization-wide priority, even though an enormous amount of resources appear to be dedicated to reconciliation of payment issues on overaged contracts. Multiple GAO reports cite the need to allocate thousands of personnel hours into reconciliation of several complex contracts that require adjustments to closed accounts and potential replacement fund requirements. The complexity of payments made by the Government have had a tremendous impact on DFAS and they stand to benefit the most from transformation of the existing reconciliation process through batch processing, addressed in Chapter IV or changes in the way final invoices are paid, addressed in Chapter V. One motivation for DFAS to get involved in transforming the process is their desire to eliminate payment reconciliation issues and to improve the accuracy of the entire payment system through modernization of their IT systems.

G. CONTRACTORS

Government contractors also have a tremendous stake in terms of being able to save significant amounts of money through many of the initiatives forwarded in this report, such as reduced audit requirements, batch processing old contracts in order to focus on newer contract actions, more user-friendly invoicing and reduced payment delays and payment reconciliation, and lower expenses due to a reduction in the personnel hours required to conduct closeouts.

[269] Interview with DFAS San Diego 03 April 2003.

H. ROOT CAUSES

In identifying the stakeholders' interests and motivations, we determined several of the root causes to the problem of timely contract closeout and the elimination of the backlog of overaged physically completed contracts. One major finding determined that closeout is every stakeholder's last priority. Another important finding is the inaction for different reasons by some of the key players on the Government side like DCMA, DCAA, DFAS, and Contracting Agencies. Contractors' inaction is mainly due to the fact that they may owe money to the Government from overpayments, may possess Government equipment used during contract performance, or simply, that the closeout process is too expensive with no benefits.

Next, we assessed the influence and importance of each stakeholder on the change initiative. Influence refers to how powerful the stakeholder is; importance refers to those stakeholders whose problems, needs and interests coincide with the aims of the initiative. It is important to choose the right strategy to obtain support from these "influential" and "important" stakeholders. This strategy will facilitate their involvement or will place them in the best position to assist. Not addressing each stakeholder's driving factors and motivations to embrace transformation or initiatives of the closeout process, will not earn the allies that are necessary to effect the organizational changes required.

The bottom line is that the DoD's contract closeout process requires a great deal of coordination between various organizations or groups. Currently each organization is aligned to best meet its individual interests, goals and results, thus sub-optimizing the entire process. The failure to see the common good in eliminating common problems is an issue that DoD faces in nearly every DoDIG and GAO report we reviewed. The payment system is set up to achieve fast-pay goals of DFAS, not the goals of the entire organization. Contracts are written by buying commands to make the most of innovative clauses and payment terms in order to achieve the best result for the requesting activity, not to ensure the simplicity in bill paying or ease in reconciliation for DFAS or contract administration for DCMA. Buying command requirements to track specific funding allocations down to minute detail requires additional ACRN requirements that make

payment and reconciliation for DFAS far more difficult that it needs to be. The method of affecting periodic audits from DCAA is based on that organization's metric for time per dollar of contract value, thus creating a system where many contracts will become overaged and will delay settlement of final rates for contractors simply due to DCAA's audit procedures. Each organization is set up to succeed in meeting their own organizational goals, not for ensuring an effective and efficient closeout process that will benefit the tax payers and the DoD as a whole. Poor communications between activities and sub-optimization at nearly every level of the acquisition process has created significant problems in eliminating overaged contracts. It is only through cooperative efforts, collaboration between the stakeholders, and the alignment of organizational needs at the DoD-level that this issue can be resolved.

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APPENDIX C. STATISTICAL ANALYSIS DOCUMENTATION AND MOCAS REASON CODE SUMMARY

RSN CODES	Feb 02	Feb O_age	Mar 02	Mar O_age	Apr 02	Apr O_age	May 02	May O_age	Jun 02	Jun O_age	Jul 02	Jul O_age
M	15,290	6,873	15,161	6,680	15,165	6,307	14,101	5,022	13,600	4,452	12,985	4,022
A	13,365	9,390	13,110	9,108	12,521	8,600	12,166	7,810	11,307	7,106	10,627	6,029
H	1,332	983	1,396	894	1,577	1,025	2,173	1,078	2,424	1,223	3,427	1,991
Y	959	828	1,045	889	947	759	1,450	1,078	1,279	958	1,153	873
P	834	756	828	756	830	750	755	672	786	697	778	690
N	502	441	497	435	359	318	1,354	1,309	1,307	1,253	1,282	1,224
G	350	253	343	243	332	245	261	178	296	216	292	211
W	240	176	300	238	318	246	279	237	277	203	266	191
V	121	99	132	110	123	101	139	114	157	125	164	131
E	68	26	68	27	104	25	100	22	94	21	91	20
D	115	82	127	95	115	79	118	81	115	77	112	75
B	61	34	53	42	58	47	49	39	46	36	41	32
C	76	59	89	73	83	73	98	87	94	83	70	59
7	119	85	109	86	96	74	90	67	97	77	81	59
J	7	7	8	7	15	7	20	9	18	7	22	9
X	38	27	34	21	20	8	18	7	17	7	16	7
F	34	27	37	30	41	34	78	52	73	46	67	40
S	101	89	89	77	90	76	93	79	39	25	61	47
T	14	10	11	7	10	6	11	7	10	7	12	9
U	2	2	2	2	3	3	3	3	3	3	5	5
Z	11	8	15	10	13	12	8	6	5	3	6	2
6	17	17	22	22	22	22	1	1	1	1	1	1
K	66	56	45	32	55	40	40	29	26	17	26	16
L	127	14	122	11	118	9	114	6	112	4	112	4
Q	4	4	5	5	1	1	1	1	19	19	19	19
R	2	2										
1	160	149	164	151	206	182	196	170	156	133	153	131
2	3	2	2	1	4	3	2	1	2	1	2	1
3												
4	4	1	3		3		6	3	6	3	6	5
5			1	1	1	1						
8												
9	4	4	4	4	4	4	2	2	2	2	2	2
No Reason	17,696	7,672	18,719	7,520	19,125	7,476	18,656	7,147	18,749	7,002	18,858	7,163
TOTAL	51,722	28,176	52,541	27,577	52,359	26,533	52,382	25,317	51,117	23,807	50,737	23,068
No RSN Ratio	34%	27%	36%	27%	37%	28%	36%	28%	37%	29%	37%	31%

RSN CODES	Aug 02	Aug O_age	Sep O2	Sep O_age	Oct 02	Oct O_age	Nov 02	Nov O_age	Dec 02	DecO_age	Jan 03	Jan O_age	Feb 03	Feb O_age
M	12,595	3,728	12,547	3,557	12,785	3,490	12,519	3,398	12,959	3,301	12,827	3,127	12,765	3,306
A	9,868	5,351	8,864	4,682	8,416	4,198	8,246	3,801	8,254	3,869	7,839	3,623	7,432	3,679
H	2,994	1,623	3,005	1,546	2,742	1,446	2,482	1,225	2,403	1,140	2,314	1,039	2,455	1,074
Y	1,548	1,187	1,598	1,232	1,254	847	1,349	897	1,364	914	1,266	777	1,270	696
P	787	695	795	684	823	722	766	670	724	622	748	655	693	600
N	1,300	1,240	1,148	1,091	945	888	798	730	440	374	441	358	454	371
G	286	205	285	204	272	176	255	169	245	159	220	174	218	150
W	267	193	290	215	281	208	257	185	243	174	264	168	198	141
V	162	130	182	139	184	132	190	140	189	138	198	142	196	141
E	91	17	94	19	88	19	93	18	93	18	97	19	94	16
D	98	65	97	65	103	69	101	68	101	66	97	60	90	55
B	36	27	32	23	39	27	52	39	52	41	79	60	82	65
C	64	55	69	59	65	53	67	55	63	49	63	46	66	45
7	112	88	88	69	76	56	74	57	71	52	71	49	59	36
J	32	13	32	12	31	13	46	27	47	28	47	28	47	28
X	16	7	19	8	16	5	30	19	25	22	47	37	44	40
F	65	38	31	21	27	21	28	21	28	21	28	21	25	18
S	40	26	38	25	32	19	31	18	30	17	34	20	24	20
T	9	6	11	7	9	5	8	4	7	2	7	3	7	3
U	5	5	6	5	6	5	4	3	4	3	3	2	2	2
Z	6	3	4	2	2	2	2	2	2	2	2	2	2	2
6	1	1			1	1	2	2	1	1	1	1	1	1
K	24	15	23	14										
L	112	4	111	4										
Q	19	19	19	19										
R			1	1	1	1	1	1	1	1				
1	98	81	107	89	100	85								
2	3	2	4	3										
3	1	1	1	1	1	1								
4	4	3	5	4										
5														
8														
9	3	3	1	1										
No Reason	19,141	7,026	19,681	5,272	20,727	4,103	20,983	3,437	20,943	2,143	21,294	1,205	21,562	1,184
TOTAL	49,787	21,857	49,188	19,073	49,026	16,592	49,384	14,986	48,285	13,157	47,984	11,616	47,786	11,673
No RSN Ratio	38%	32%	40%	28%	42%	25%	42%	23%	43%	16%	44%	10%	45%	10%

Table 8. Reason Codes Trends in All Reports for Navy Contracts.

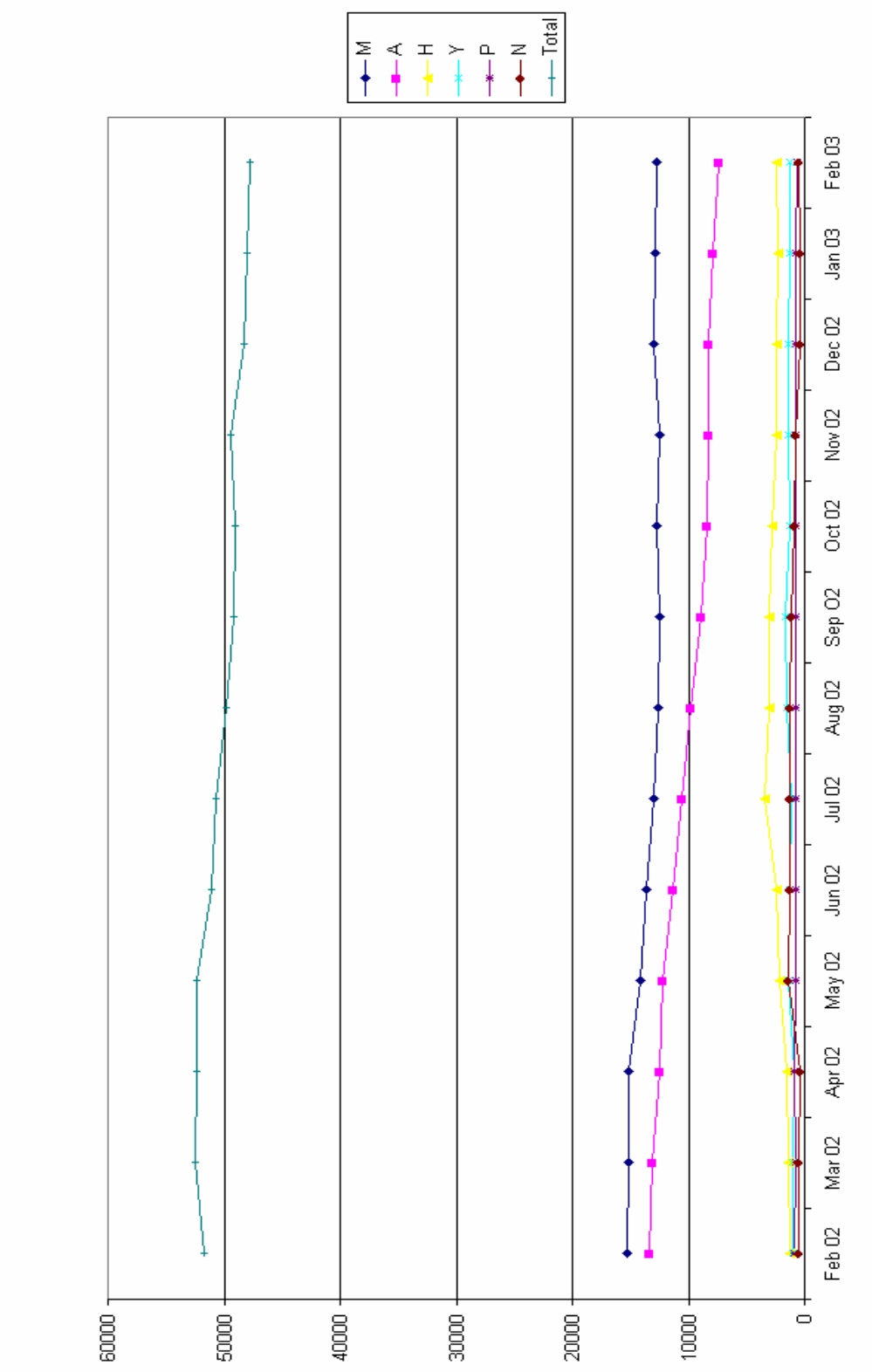

Table 9. Reason Code Trends for All Navy Contracts.

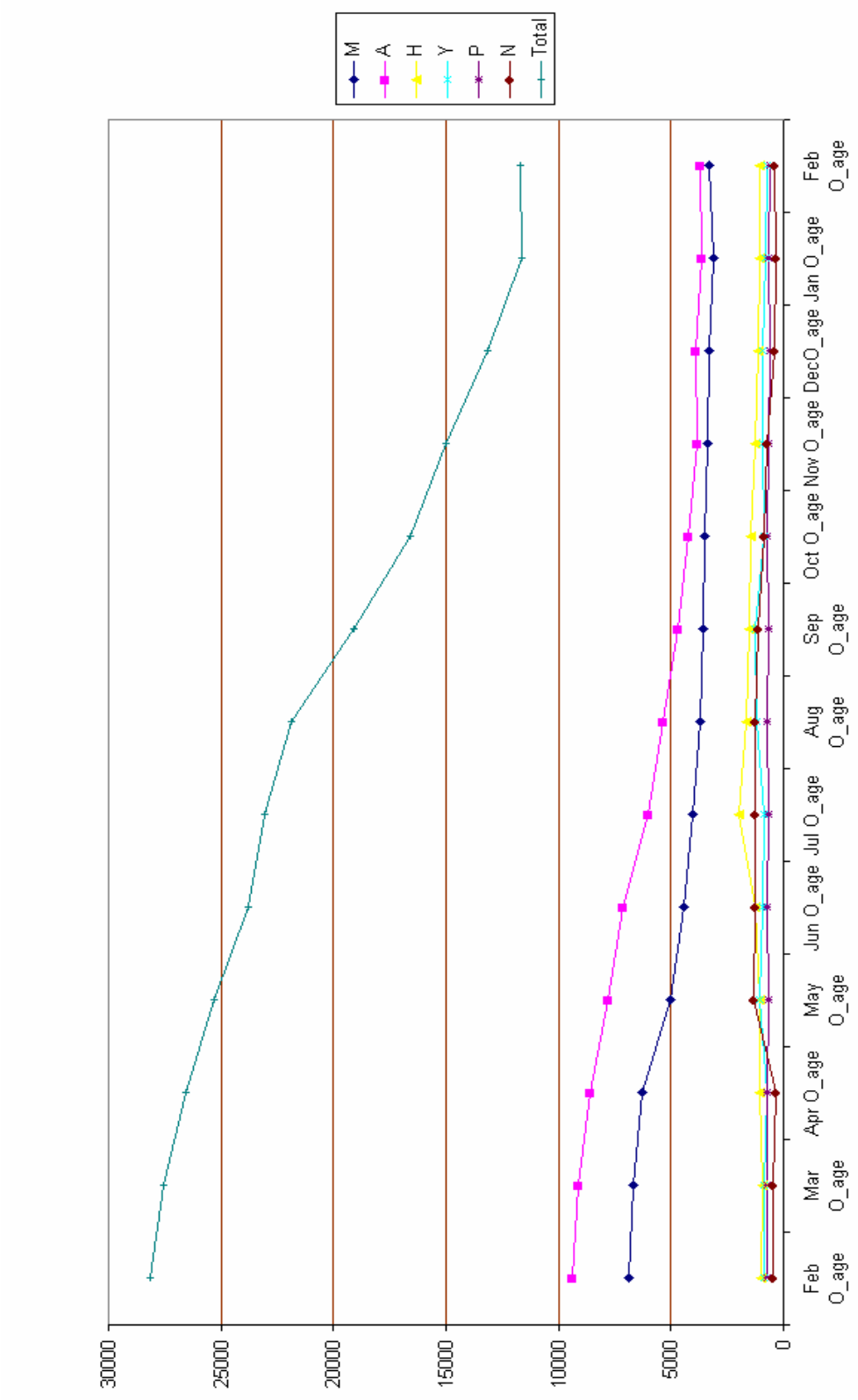

Table 10. Reason Code Trends for Overaged Navy Contracts.

	Reason code M		Reason code A		Reason code H		Reason code Y		Reason code P		Reason code N		Other reason codes		No Reason code		TOTAL	
	# of contracts	Ratio	# of contracts	Ratio	# of contracts	Ratio	# of contracts	Ratio	# of contracts	Ratio	# of contracts	Ratio	# of contracts	Ratio	# of contracts	Ratio	# of contracts	Ratio
Total # of contracts	12,765	26.7%	7,432	15.6%	2,455	5.1%	1,270	2.7%	693	1.5%	454	1.0%	1,155	2.4%	21,562	45.1%	47,786	100.0%
Department																		
Navy	12,689	99.4%	7,370	99.2%	2,441	99.4%	1,259	99.1%	688	99.3%	454	100.0%	1,124	97.3%	21,384	99.2%	47,409	99.2%
Marine Corps	76	0.6%	60	0.8%	14	0.6%	6	0.5%	5	0.7%			8	0.7%	178	0.8%	347	0.7%
Contract types																		
Fixed price redet. Type A													2	0.2%	8	0.0%	10	0.0%
Firm fixed-price	74	0.6%	435	5.9%	11	0.4%	61	4.8%	336	48.5%	2	0.4%	403	34.9%	5,487	25.4%	6,809	14.2%
Fixed-price with EPA			1	0.0%					2	0.3%			1	0.1%			4	0.0%
FPI with Per. Inc.			12	0.2%	2	0.1%			19	2.7%	3	0.7%	35	3.0%	24	0.1%	95	0.2%
Cost-plus-award-fee	248	1.9%	281	3.8%	7	0.3%	9	0.7%	11	1.6%	2	0.4%	47	4.1%	591	2.7%	1,196	2.5%
Cost contract	232	1.8%	66	0.9%	40	1.6%	22	1.7%	14	2.0%	42	9.3%	14	1.2%	114	0.5%	544	1.1%
Cost sharing	7	0.1%	6	0.1%	2	0.1%	1	0.1%					4	0.3%	44	0.2%	64	0.1%
Cost-plus-fixed-fee	9,156	71.7%	5,093	68.5%	1,713	69.8%	891	70.2%	223	32.2%	336	74.0%	498	43.1%	11,590	53.8%	29,500	61.7%
CPIF with Per. Inc.	9	0.1%	9	0.1%	2	0.1%	2	0.2%	2	0.3%	2	0.4%	17	1.5%	15	0.1%	58	0.1%
Time and materials	2,516	19.7%	1,311	17.6%	589	24.0%	219	17.2%	61	8.8%	66	14.5%	92	8.0%	2,789	12.9%	7,643	16.0%
Labor hour	397	3.1%	117	1.6%	63	2.6%	35	2.8%					14	1.2%	335	1.6%	961	2.0%
No type shown	126	1.0%	101	1.4%	26	1.1%	25	2.0%	25	3.6%	1	0.2%	28	2.4%	563	2.6%	895	1.9%
0															2	0.0%	2	0.0%
Kind of contract																		
Supply Ks & Price orders	248	1.9%	307	4.1%	40	1.6%	60	4.7%	214	30.9%	8	1.8%	195	16.9%	4,090	19.0%	5,162	10.8%
R&D Contracts	1,252	9.8%	716	9.6%	155	6.3%	97	7.6%	68	9.8%	29	6.4%	191	16.5%	1,765	8.2%	4,273	8.9%
System acq. contracts	114	0.9%	36	0.5%	2	0.1%	6	0.5%	31	4.5%	1	0.2%	47	4.1%	86	0.4%	323	0.7%
Maintenance contracts	279	2.2%	133	1.8%	11	0.4%	22	1.7%	49	7.1%	2	0.4%	52	4.5%	1,012	4.7%	1,560	3.3%
Service contracts	10,732	84.1%	6,080	81.8%	2,218	90.3%	1,056	83.1%	284	41.0%	412	90.7%	585	50.6%	13,678	63.4%	35,045	73.3%
Facilities contracts	2	0.0%	8	0.1%			1	0.1%					1	0.1%	9	0.0%	21	0.0%
Undefinitized letter Ks	1	0.0%	7	0.1%			1	0.1%	4	0.6%			4	0.3%	9	0.0%	26	0.1%
Unpriced orders	34	0.3%	55	0.7%	7	0.3%	4	0.3%	21	3.0%			56	4.8%	411	1.9%	588	1.2%
Other	103	0.8%	90	1.2%	22	0.9%	18	1.4%	22	3.2%	2	0.4%	24	2.1%	502	2.3%	783	1.6%
Dollar value																		
<= $ 100,000	6,912	54.1%	3,704	49.8%	1,467	59.8%	708	55.7%	215	31.0%	272	59.9%	546	47.3%	13,045	60.5%	26,869	56.2%
100,001 - 500,000	3,856	30.2%	2,160	29.1%	629	25.6%	329	25.9%	122	17.6%	124	27.3%	221	19.1%	5,436	25.2%	12,877	26.9%
500,001 - 1,000,000	968	7.6%	661	8.9%	154	6.3%	100	7.9%	49	7.1%	30	6.6%	79	6.8%	1,356	6.3%	3,397	7.1%
1,000,001 - 5,000,000	793	6.2%	561	7.5%	130	5.3%	81	6.4%	99	14.3%	18	4.0%	121	10.5%	1,248	5.8%	3,051	6.4%
>= 5,000,001	236	1.8%	346	4.7%	75	3.1%	47	3.7%	208	30.0%	10	2.2%	188	16.3%	477	2.2%	1,657	3.3%

Table 11. Reason Code Breakdown of All Section 2 Contracts in February 2003 Report.

	Reason code M		Reason code A		Reason code H		Reason code Y		Reason code P		Reason code N		Other reason codes		No Reason code		TOTAL OVERAGED	
	# of contracts	Ratio	# of contracts	Ratio	# of contracts	Ratio	# of contracts	Ratio	# of contracts	Ratio	# of contracts	Ratio	# of contracts	Ratio	# of contracts	Ratio	# of overaged	Ratio
Total # of overaged contracts	3,306	28.3%	3,679	31.5%	1,074	9.2%	696	6.0%	600	5.1%	371	3.2%	763	6.5%	1,184	10.1%	11,673	100.0%
Department																		
Navy	3,285	99.4%	3,661	99.5%	1,063	99.0%	696	100.0%	595	99.2%	371	100.0%	736	99.2%	1,178	99.5%	11,585	99.2%
Marine Corps	21	0.6%	16	0.4%	11	1.0%			5	0.8%			6	0.8%	6	0.5%	65	0.6%
Contract types																		
Fixed price redet Type A													1	0.1%			1	0.0%
Firm fixed-price	64	1.9%	391	10.6%	11	1.0%	49	7.0%	327	54.5%	1	0.3%	366	48.0%	1,006	85.0%	2,215	19.0%
Fixed-price with EPA									2	0.3%							2	0.0%
FPI with Per. Inc.			10	0.3%					17	2.8%	3	0.8%	30	3.9%	1	0.1%	61	0.5%
Cost-plus-award-fee	38	1.1%	92	2.5%	4	0.4%	7	1.0%	8	1.3%	2	0.5%	22	2.9%			173	1.5%
Cost contract	4	0.1%	51	1.4%	38	3.5%	17	2.4%	13	2.2%	42	11.3%	10	1.3%	3	0.3%	178	1.5%
Cost sharing	1	0.0%											3	0.4%	11	0.9%	15	0.1%
Cost-plus-fixed-fee	2,245	67.9%	2,459	66.8%	787	73.3%	445	63.9%	169	28.2%	300	80.9%	269	35.3%	120	10.1%	6,794	58.2%
CPIF with Per. Inc.	5	0.2%	5	0.1%	2	0.2%	1	0.1%	1	0.2%	2	0.5%	14	1.8%			30	0.3%
Time and materials	795	24.0%	523	14.2%	179	16.7%	133	19.1%	44	7.3%	20	5.4%	27	3.5%	15	1.3%	1,736	14.9%
Labor hour	79	2.4%	60	1.6%	31	2.9%	21	3.0%					1	0.1%	7	0.6%	199	1.7%
No type shown	75	2.3%	88	2.4%	22	2.0%	23	3.3%	19	3.2%	1	0.3%	20	2.6%	21	1.8%	269	2.3%
Kind of contract																		
Supply Ks & Price orders	135	4.1%	202	5.5%	29	2.7%	43	6.2%	199	33.2%	5	1.3%	166	21.8%	760	64.2%	1,539	13.2%
R&D Conracts	176	5.3%	310	8.4%	79	7.4%	49	7.0%	52	8.7%	26	7.0%	110	14.4%	48	4.1%	860	7.3%
System acq. contracts	9	0.3%	13	0.4%			5	0.7%	31	5.2%	1	0.3%	36	4.7%	1	0.1%	96	0.8%
Maintenance contracts	21	0.6%	96	2.6%	6	0.6%	12	1.7%	44	7.3%	2	0.5%	44	5.8%	134	11.3%	359	3.1%
Service contracts	2,896	87.6%	2,966	80.6%	943	87.8%	566	81.3%	233	38.8%	336	90.6%	344	45.1%	194	16.4%	8,478	72.6%
Facilities contracts			1	0.0%									1	0.1%	1	0.1%	3	0.0%
Undefinitized letter Ks	1	0.0%	4	0.1%			1	0.1%	4	0.7%			3	0.4%	1	0.1%	14	0.1%
Unpriced orders	6	0.2%	19	0.5%			3	0.4%	19	3.2%			42	5.5%	29	2.4%	118	1.0%
Other	62	1.9%	68	1.8%	17	1.6%	17	2.4%	18	3.0%	1	0.3%	17	2.2%	16	1.4%	216	1.9%
Dollar value																		
<= $ 100,000	1,706	51.6%	1,669	45.4%	553	51.5%	360	51.7%	190	31.7%	226	60.9%	369	48.4%	962	81.3%	6,035	51.7%
100,001 - 500,000	1,078	32.6%	1,095	29.8%	303	28.2%	193	27.7%	106	17.7%	105	28.3%	137	18.0%	122	10.3%	3,139	26.9%
500,001 - 1,000,000	225	6.8%	374	10.2%	86	8.0%	63	9.1%	40	6.7%	21	5.7%	37	4.8%	54	4.6%	900	7.7%
1,000,001 - 5,000,000	234	7.1%	320	8.7%	79	7.4%	47	6.8%	84	14.0%	10	2.7%	80	10.5%	25	2.1%	879	7.5%
>= 5,000,001	63	1.9%	221	6.0%	53	4.9%	33	4.7%	180	30.0%	9	2.4%	140	18.3%	21	1.8%	720	6.2%

Table 12. Reason Code Breakdown of Overaged Navy Contracts, as of 28 February 2003.

	All contracts		Overaged contracts	
	# of contracts	Ratio	# of contracts	Ratio
Total CPFF contracts	29,505	61.7%	6,794	23.0%
Kind of contract				
Supply Ks & Price orders	522	1.8%	135	2.0%
R&D Conracts	3,821	13.0%	694	10.2%
System acq. contracts	181	0.6%	22	0.3%
Maintenance contracts	152	0.5%	28	0.4%
Service contracts	24,699	83.7%	5,903	86.9%
Facilities contracts	6	0.0%		
Undefinitized letter Ks	5	0.0%	3	0.0%
Unpriced orders	94	0.3%	8	0.1%
Other	25	0.1%	1	0.0%
Dollar value				
<= $ 100,000	15,002	50.8%	3,210	47.2%
100,001 - 500,000	9,063	30.7%	2,098	30.9%
500,001 - 1,000,000	2,382	8.1%	591	8.7%
1,000,001 - 5,000,000	2,156	7.3%	562	8.3%
>= 5,000,001	902	3.1%	333	4.9%

Table 13. Details of Cost-Plus-Fixed-Fee Navy Contracts in the February 2003 Report.

	All contracts		Overaged contracts	
	# of contracts	Ratio	# of contracts	Ratio
Total FFP contracts	6,809	14.2%	2,215	32.5%
Kind of contract				
Supply Ks & Price orders	4,201	61.7%	1,272	57.4%
R&D Conracts	196	2.9%	94	4.2%
System acq. contracts	89	1.3%	51	2.3%
Maintenance contracts	1,019	15.0%	296	13.4%
Service contracts	883	13.0%	393	17.7%
Facilities contracts	1	0.0%	1	0.0%
Undefinitized letter Ks	10	0.1%	8	0.4%
Unpriced orders	409	6.0%	100	4.5%
Other	1	0.0%		
Dollar value				
<= $ 100,000	4,948	72.7%	1,464	66.1%
100,001 - 500,000	1,029	15.1%	302	13.6%
500,001 - 1,000,000	250	3.7%	96	4.3%
1,000,001 - 5,000,000	272	4.0%	118	5.3%
>= 5,000,001	310	4.6%	235	10.6%

Table 14. Details of Firm-Fixed-Price Navy Contracts in the February 2003 Report.

	All contracts		Overaged contracts	
	# of contracts	Ratio	# of contracts	Ratio
Total # of Service contracts	35,050	73.3%	8,478	24.2%
Contract types				
Fixed price redet. Type A	1	0.0%	1	0.0%
Firm fixed-price	883	2.5%	393	4.6%
Fixed-price with EPA				
FPI with Per. Inc.	16	0.0%	10	0.1%
Cost-plus-award-fee	1,093	3.1%	143	1.7%
Cost contract	220	0.6%	155	1.8%
Cost sharing	30	0.1%	12	0.1%
Cost-plus-fixed-fee	24,699	70.5%	5,903	69.6%
CPIF with Per. Inc.	12	0.0%	6	0.1%
Time and materials	7,110	20.3%	1,644	19.4%
Labor hour	929	2.7%	190	2.2%
No type shown	57	0.2%	21	0.2%
Dollar value				
<= $ 100,000	19,419	55.4%	4,176	49.3%
100,001 - 500,000	10,398	29.7%	2,685	31.7%
500,001 - 1,000,000	2,440	7.0%	694	8.2%
1,000,001 - 5,000,000	2,026	5.8%	628	7.4%
>= 5,000,001	767	2.2%	295	3.5%

Table 15. Details of Navy Service Contracts in the February 2003 MOCAS Report.

	All contracts		Overaged contracts	
	# of contracts	Ratio	# of contracts	Ratio
Total # of contracts	161	0.3%	86	53.4%
Department				
Navy	159	98.8%	All Navy	
Marine Corps	2	1.2%		
Contract types				
Fixed price redet. Type A				
Firm fixed-price	46	28.6%	40	46.5%
Fixed-price with EPA	2	1.2%	1	1.2%
FPI with Per. Inc.	28	17.4%	18	20.9%
Cost-plus-award-fee	18	11.2%	5	5.8%
Cost contract	1	0.6%		
Cost sharing				
Cost-plus-fixed-fee	52	32.3%	16	18.6%
CPIF with Per. Inc.	11	6.8%	6	7.0%
Time and materials	2	1.2%		
Labor hour	1	0.6%		
No type shown				
Kind of contract				
Supply Ks & Price orders	40	24.8%	25	29.1%
R&D Conracts	27	16.8%	11	12.8%
System acq. contracts	49	30.4%	33	38.4%
Maintenance contracts	5	3.1%	2	2.3%
Service contracts	36	22.4%	13	15.1%
Facilities contracts				
Undefinitized letter Ks	1	0.6%	1	1.2%
Unpriced orders	1	0.6%	1	1.2%
Other	1	0.6%		
Reason Code				
Negotiation of ovhd rates	7	4.3%	2	2.3%
Not submitted final invoice	35	21.7%	21	24.4%
Final audit in process	4	2.5%	2	2.3%
Notice of final payment	4	2.5%	2	2.3%
Reconciliation	37	23.0%	31	36.0%
Disposition of GP	13	8.1%	12	14.0%
Contract modification	5	3.1%	4	4.7%
OTHER	22	13.7%	11	12.8%
NO RSN	34	21.1%	1	1.2%

Reason codes for Overaged FFP		Reason codes for Overaged CPFF	
A	7	A	7
B	1	H	1
D	1	M	2
P	20	P	2
S	1	S	1
V	8	V	1
W	1	W	1
Blank	1	Y	1

Total obligation amount for these 20 contracts is $6,405,712,001 with unliquidated amount of $75,911,112.

Table 16. Breakdown of Contracts with Total Obligation Amount of $100,000,000 or More.

	All contracts		Overaged contracts	
	# of contracts	Ratio	# of contracts	Ratio
Total # of contracts	210	0.4%	90	42.9%
Department				
Navy	209	99.5%	All Navy	
Marine Corps	1	0.5%		
Contract types				
Fixed price redet. Type A				
Firm fixed-price	61	29.0%	40	44.4%
Fixed-price with EPA	1	0.5%	1	1.1%
FPI with Per. Inc.	22	10.5%	17	18.9%
Cost-plus-award-fee	13	6.2%	3	3.3%
Cost contract	5	2.4%	1	1.1%
Cost sharing				
Cost-plus-fixed-fee	77	36.7%	16	17.8%
CPIF with Per. Inc.	9	4.3%	6	6.7%
Time and materials	16	7.6%	5	5.6%
Labor hour	5	2.4%	1	1.1%
No type shown	1	0.5%		
Kind of contract				
Supply Ks & Price orders	57	27.1%	40	44.4%
R&D Conracts	35	16.7%	11	12.2%
System acq. contracts	27	12.9%	15	16.7%
Maintenance contracts	9	4.3%	3	3.3%
Service contracts	78	37.1%	19	21.1%
Facilities contracts				
Undefinitized letter Ks				
Unpriced orders	2	1.0%	2	2.2%
Other	2	1.0%		
Reason Code				
Negotiation of ovhd rates	19	9.0%	6	6.7%
Not submitted final invoice	35	16.7%	16	17.8%
Final audit in process	9	4.3%	6	6.7%
Notice of final payment	2	1.0%	1	1.1%
Reconciliation	39	18.6%	34	37.8%
Disposition of GP	5	2.4%	3	3.3%
Contract modification	10	4.8%	9	10.0%
OTHER	21	10.0%	14	15.6%
NO RSN	70	33.3%		0.0%

Table 17. Navy Contracts with Unliquidated Obligation Amount of $1,000,000 or More.

Reason Code	MOCAS/MILSCAP Description	Clarifications	OPR
A	Contractor has not submitted final invoice/voucher	Contractor has not submitted a final bill for payment. For cost contracts, final indirect rates have been established.	Contractor
B	Final acceptance not received	Awaiting destination acceptance from the Buying or Receiving Activity.	Services
C	Contractor has not submitted patent/royalty report	For Patents, DD Form 882, or equivalent has not been received from the contractorper applicable FAR clauses.	Contractor
D	Patent/royalty clearance required	Contractor has not submitted the final DD Form 882, or equivalent. The form has been forwarded to the Buying Activity for approval.	Services
E	Contractor has not submitted proposal for final price redetermination	Use this code until th contracting officer receives an adequate final price redetermination proposal.	Contractor
F	Supplemental agreement covering final price redetermination required	Use this code while the fina price redermination proposal is being reviewed or negotiated. An OPR code is required to signify which party's actions are currently open.	Services Contractor DCMA
G	Settlement of subcontractors pending	Pending settlement of subcontract(s); may impact final voucher submission.	Contractor
H	Final audit in process	DCAA performing final Contract Audit Closing Statement on final voucher or DCMA using Cumulative Allowable Cost Worksheet (CACWS) and/or risk based approach for auditing final voucher.	DCMA DCAA
J	Disallowed cost pending	ACO in process of resolving DCAA Form 1 issue or similar disallowed cost issue.	DCMA
K	Final audit of Government property pending	**DO NOT USE:** Use Reason Code "V" for Property issues.	N/A
L	Independent research & development rates pending	**DO NOT USE:** The Reason Code is obsolete for contracts after October 1992. Use Reason Code "M" for rates.	N/A
M	Negotiation of overhead rates pending	Identification of OPR combined with "M" code will provide visibility of the current O/H action (e.g. awaiting KTR proposal, audit or negoation.)	Contractor DCMA DCAA
N	Additional funds are requested but not yet received	The PCO has been requested to provide additional funds for various reasons (e.g. cost overruns). Wen contract is awaiting replacement funds for canceled appropriations, use Reason Code "1".	Services
P	Reconciliation with paying office and contractor being accomplished	Provide visibility as to the basis for the reconciliation delay (e.g. disbursement audit in process (DFAS), obligation audit in process (DCMA), or awating payment history and/or information (Contractor).)	Contractor DCMA DFAS
Q	Armed Services Board of Contract Appeals case	Contract should be moved to Section 3 once the ASBCA docket number is assigned. The docket number should be entered in the R3 Remarks.	DCMA
R	Public Law 85-804 case	50 USC [Chapter 29] 1431 - P.L. 85-804 applies to Extraordinary Contractual Actions.	DCMA
S	Litigation/investigation pending	Either fraud investigation activity is in process, or contractual issue is not resolved or claim has been received by contracting officer. Contract should be moved to Section 3 (BCA/CIL/CLL) once contracts is in Federal Courts and/or DOJ opens a case.	DCMA
T	Termination in process	Use for Terminations. Move Termination for Convenience to Section 3. Termination for Default stay in Section 2.	DCMA
U	Warranty clause action pending	Open warranty action(s) currently being processed IAW FAR 46.709 and -10.	DCMA
V	Disposition of Government property pending	Identification of OPR combined with "V" will provide visibility into delay (e.g. awaiting PCO disposition instructions (Services), or contractor submittal of inventory schedules (KTR)	Services Contractor DCMA

Table 18. Reason Codes Summary.

Reason Code	MOCAS/MILSCAP Description	Clarifications	OPR
W	Contract modification pending	Contract modification awaiting contractor signature, PCO issuance of modification or ACO modification actions.	Services Contractor DCMA
X	Contract release and assignment pending	Awaiting contractor's submission of the release and assignment.	Contractor
Y	Awaiting notice of final payment	Proper final invoce/voucher forwarded to DFAS for payment, awaiting payment.	DFAS
Z	Disposition of classified material pending	Awaiting disposition of instructions on classified materials from the Buying Activity. The ACO is responsible for notifying DIS that the contract is complete and classified material should be dispositioned.	Services
1	Canceled funds	Voucher/invoice has been submitted to DFAS for D-MACT action to funding station.	Services
2	Appropriations in Red	**DO NOT USE**	N/A
3	Prevalidation Action Pending	Voucher/invoice at DFAS pending prevalidation process before payment.	DFAS
4	Reserved	Reserved	N/A
5	Reserved	Reserved	N/A
6	Fee withheld	Fee withheld awaiting resolution of issue before fial payment can be made.	DCMA
7	Awaiting removal from Excess Funds	The ACO has deobligation authority.	DCMA
8	Reserved	Reserved	N/A
9	Reserved	Reserved	N/A

Table 18. Continued.

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APPENDIX D. PREVIOUS REPORTS ON THE CONTRACT CLOSEOUT PROCESS

Common Findings

1. Lack of personnel training on contract closeout procedures.
2. Lack of internal controls requiring funds review.
3. Lack of communication/coordination between key personnel.
4. Inaccuracy of database and/or financial reports.
5. Mismanagement of expiring and closing funds.
6. Ineffective contract payment systems lead to excessive interest payments to contractors and untimely contract closeout.
7. Minimal use of Quick-Closeout Procedures.
8. Ineffective systems for collecting, reporting, and monitoring data on the contract closeout process.
9. The most problematic include settling all interim or disallowed costs, completing all price revisions, settling prior year indirect cost rates, and completing contract audits
10. Inefficient closeout procedures cause the excessive use of resources at the DFAS-Columbus, the MOCAS payment center, and throughout the other agencies and organizations associated with contract closeout.

Summary of Reports

1. General Accounting Office (GAO), Report No. 03-275- Improved Reviews Needed to Ensure Better Management of Obligated Funds, January 2003.

    a. Background: This report outlines how the Department of Defense (DoD) confronts pervasive and complex financial management problems that can seriously diminish the efficiency of the military Services' support operations. Recent audits of DoD's financial statements highlight ongoing financial management challenges that affect the development of accurate and complete financial information. Among the challenges facing DoD is the lack of accurate obligation data needed for effective budget management and reliable financial reporting. As of September 30, 2001, the Navy's operating appropriations had $2,100,000,000 in unliquidated funds that were obligated during fiscal years 1997-99, of which $1,400,000,000 (67 percent) represented unliquidated operating obligations of $50,000 or more. Also, in 1999 and 2000, Navy auditors reported inaccuracies in the Navy's obligation data

and found that fund managers were not fully complying with DoD review regulations.

b. Findings: Two-thirds of the unliquidated operating obligations over $50,000 were not properly accounted for as a result of the Navy's failure to review such obligations three times each year as required by DoD regulations. The Navy did not fully adhere to the regulation that unliquidated operating obligations of any value be reviewed at least once each year. The Navy did not know how much money was tied up in unliquidated operating obligations that could potentially be used for other appropriate needs and its budgetary reports to Congress and financial statements were inaccurate. The Navy did not apply existing internal control activities to ensure that fund managers did not perform obligation reviews in accordance with DoD regulations, nor did it hold fund managers accountable for the accuracy and completeness of the reviews.

c. Recommendations: That the Secretary of Defense must direct the Secretary of Navy to adhere to DoD unliquidated operating obligation review regulations and better apply existing internal control activities to ensure adherence to these regulations, and to hold fund managers accountable for the accuracy and completeness of their reviews.

2. General Accounting Office (GAO), Report No. 02-747- Canceled DoD Appropriations, July 2002.

a. Background: In 1990, the Congress changed the law governing the use of appropriation accounts because it determined that controls over them were not working. In particular, the Congress found that (DoD) may have spent hundreds of millions of dollars for purposes that the Congress had not approved. The 1990 law was intended to improve congressional control by providing that, five years after the expiration of the period of availability of a fixed-term appropriation, the appropriation account be closed and all remaining balances canceled. After closing, the appropriation account could no longer be used for obligations or expenditures for any purpose.

b. Findings: DoD has started the process of correcting the illegal or otherwise improper closed account adjustments made during fiscal year 2000. However, this will require substantial effort and, according to DoD, estimates will not be complete before the end of

fiscal year 2002. DoD estimates that it will take 2,300 staff hours to correct the accounting records for this large contract alone and over 21,000 staff hours (10 staff years) to correct the accounting for all of the affected fiscal year 2000 transactions. The lack of fundamental controls and management oversight had fostered the idea among DoD contracting and accounting personnel that it was acceptable to maximize the use of available funds by adjusting the accounting records to use up unspent funds in the closed accounts, regardless of the propriety of doing so.

c. Recommendations: That the Secretary of Defense direct the Under Secretary of Defense (Comptroller) to direct the Director of the DFAS to ensure that DFAS- Columbus completes its review and correction of the remaining fiscal year 2000 illegal and otherwise improper adjustments, reverse closed account adjustments made during fiscal year 2001 identified in this report as illegal or otherwise improper, determine the entries necessary to correct the accounting for reversed fiscal year 2001 transactions, help ensure that DFAS Columbus completes the review and correction of the additional $1,100,000,000 of fiscal year 2001 adjustments it has scheduled for detailed review, and continue with DFAS's top-level management attention and monitoring of the program for future adjustments to closed appropriation accounts. The report also recommended that the Secretary of Defense direct the Under Secretary of Defense (Comptroller) to continue to monitor these adjustments so that any potential Anti-Deficiency Act violations that may occur are promptly investigated and reported as required by the Anti-Deficiency Act, 31 U.S.C. 1351, and implementing guidance.

3. Office of the Inspector General of the Department of Defense, Report No. D-2003-048- Reopening of Contracts in the Mechanization of Contract Administration Services (MOCAS) System, 16 January 2003.

a. Background: The Defense Finance and Accounting Service planned to replace the payment and entitlement function performed by the MOCAS system with a new or modified system. In anticipation of transitioning to the new contract payment system, DFAS and DCMA were attempting to close out as many contracts as possible.

b. Findings: DFAS-Columbus and DCMA closed a substantial number of contracts prematurely and had to subsequently reopen them. In July 2002, the MOCAS system contained 10,819

contracts that had been closed out and later reopened. Although the DFAS-Columbus identified their errors that resulted in premature contract closure, additional improvements were needed to proactively prevent errors before they occurred. Likewise, DCMA needed to do a better job assisting the DFAS-Columbus in the closure process on contracts for which it has primary responsibility. Contracts closed out in error cause the unnecessary use of resources at DFAS-Columbus and throughout the contracting community.

c. Recommendations: This report recommended that the Director of DFAS-Columbus require that adequate research be performed to ensure proper coding of invoices to prevent premature closure of contracts. Another recommendation was that the Director of DCMA revise current procedures to require periodic obligation reviews at accounting classification reference number (ACRN) level during the life cycle of a contract and at contract closeout to aid DFAS-Columbus in validating the accuracy of obligation balances.

4. Office of the Inspector General, Department of Defense, Report No. D-2002-027- Closing Overaged Contracts Prior to Fielding a New DoD Contractor Payment System, December 19, 2001.

a. Background: DoD plans to transition from its present contract payment system, MOCAS, to a new payment system, the Defense Procurement Payment System (DPPS), by October 2002. As of the end of April 2001, there were about 324,000 contracts valued at $844,000,000,000 administered using MOCAS. Of those contracts, 116,563 were open in MOCAS but eligible for closure (that is, work was completed because goods and services were delivered and accepted, defined by the FAR as "physically complete"). The FAR permits contracts to be eligible for closure from 6 to 36 months after work is completed, depending on the type of contract, before categorizing them as overaged. Of the contracts eligible for closure in MOCAS at the end of March 2001, DoD classified 22,628 as overaged (that is, beyond the maximum time allotted to close a contract). The contracts became overaged over a period of 20 years, between March 1981 and March 2001. The overall audit objective was to evaluate actions to close out completed contracts and transition from the MOCAS system to DPPS. The report focused on the actions to close out overaged contracts.

b. Findings: DoD made progress and closed about 30,393 overaged contracts from February 2000 to March 2001. However, another 26,610 contracts became overaged during that period. Based on the closure rate overaged contracts achieved during the February 2000 to March 2001 period, DODIG estimate that it will take at least 6 years for DoD to close all remaining overaged contracts. To accelerate the closure of contracts, additional actions were needed. DODIG's judgmental sample of 80 contracts showed that there were weaknesses in the closure process, including inadequate monitoring of contracts that could be closed, inattention to closure requirements, erroneous data about contracts available for closure, lack of coordination, lack of sufficient funding, a shortage of personnel, and untimely contractor input. Unless improvements are made and additional resources applied, DoD will have a significant number of overaged contracts when it begins the new payment system, which could adversely affect its orderly transition.

c. Recommendations: That the Under Secretary of Defense (Acquisition, Technology, and Logistics) determine the DoD acquisition staffing requirements and, based upon identified needs; seek additional acquisition resources to accelerate the closure of contracts. It also recommends that the Director of DCMA reiterate the policy that administrative contracting officers must exercise their authority for unilateral rate determination to encourage vendors to fulfill their responsibilities to submit timely final vouchers for payment.

5. Office of the Inspector General, Department of Defense, Report No. D–2002-076- Funding Invoices to Expedite the Closure of Contracts before Transitioning to a New DoD Payment System, March 29, 2002.

a. Background: DFAS plans to replace the payment and entitlement function performed by MOCAS with DPPS. To facilitate this transition, the Deputy Secretary of Defense directed the Military Departments and DCMA to develop comprehensive plans for closing out all completed contracts. Plans for the orderly transition from MOCAS to the DPPS for contracts with continuing requirements were also to be developed. DFAS was to assist in reengineering the reconciliation process and developing procedures to support the retirement of MOCAS. Also, DFAS was to assist in the close out process for all completed contracts. At the time of audit, 116,563 contracts were pending closure. Of the 116,563 contracts, 3,954 may require current-year funding before a contract

payment can be made. The overall audit objective was to evaluate actions to close out completed contracts and transition them from MOCAS to DPPS. The report focused on the policy and procedures for closing out contracts that require current-year funds because the original funding appropriation had been closed.

b. Findings: DFAS and DoD Components did not take sufficient actions to fund payments on outstanding contract invoices that would permit closing contracts. DFAS-Columbus did not notify DoD Components timely that funding was needed to close contracts where original funding had been closed. Also, DoD Components were not providing timely current-year funding to DFAS. MOCAS records showed that 3,954 contracts could require as much as $97 million in current-year funding to pay invoices and close the contracts. Two of the invoices have required funding since 1993. Unless improvements are made, DoD will have a large number of contracts requiring current-year funds when it begins the transfer of MOCAS data to the new payment system. This could adversely affect its orderly transition. Additionally, the DoD incurred unnecessary costs because of the untimely payments for those invoices awaiting funds, to include approximately $215,429 in prompt payment interest penalties on invoices we reviewed.

c. Recommendations: That the Under Secretary of Defense (Comptroller) revise DoD Regulation 7000.14-R "Financial Management Regulation," Volume 3, Chapter 10, "Accounting Requirements for Expired and Closed Accounts," updated January 31, 2001, to require that the gaining DoD activity of a program be responsible for providing the appropriate fund sites for invoices that would otherwise require disbursement from canceled appropriations. It also recommended that the Director, DFAS develop new policy and procedures to require that fund holders are notified promptly whenever invoices that could need current-year funding are received. Other recommendation was that the Director of DFAS monitor and provides monthly reports to the DoD Components' financial management and comptroller offices identifying outstanding requests for current-year funding.

6. Office of the Inspector General, Department of Defense, Report No. 93-058- Report on Audits of the Contract Closeout Process, February 23, 1993.

a. Background: The FAR establishes guidance for Executive agency procurement and contract administration missions. The overall

objective of this report was to determine whether the contract closeout process was accomplished in an efficient and effective manner.

b. Findings: The audit generally concludes that the contract closeout process needs improvement. The backlog of DCAA audits of overhead rates impacted contract closeout in some agencies. The DCAA backlog could be reduced because of a change in DCAA audit priorities caused by a change in Public Law. Internal controls needed improvement because contracting officers were not properly trained in the contract closeout process and were not held accountable for the closeout process.

c. Recommendations: Contract Administration has a need for higher priority and timelier contract closeout, improved contract information tracking systems. During the audit DCAA recognized that under the new funds availability rules, continued delays in overhead rates audits could result in the use of current monies to pay for old obligations. As a consequence, DCAA will adjust the overhead rates audit priorities to accomplish overhead rates audits before contract funds are canceled. This could result in a reduction in the backlog of overhead audits.

7. Office of the Inspector General, Department of Defense, Report No. D-92-076- Administration of the Contract Closeout Process within DoD, April 15, 1992.

a. Background: The overall objective of this report was to determine whether the contract closeout process within DoD was accomplished in an efficient and effective manner. This report addressed the objectives related to the delivery of goods and services, payments by the Government, the accuracy of the MOCAS system, and applicable internal controls.

b. Findings: Contract data in the MOCAS system were inaccurate and contributed to delays in closing contracts. Although delivery of goods and services was not a problem, DoDIG identified incorrect delivery information in MOCAS. Incomplete and missing ACO and finance documentation also caused database problems. As a result, inaccurate payments were made, discounts were lost, payments were delayed, and contracts were not closed in a timely manner.

c. Recommendations: That DLA emphasize the need to properly maintain and control ACO file documentation. It also recommended that the DFAS-Columbus Center develop and implement procedures to better control and maintain complete and accurate finance files, train the appropriate personnel to properly input contract data into MOCAS in order to make accurate payments in a timely manner.

8. Report of the Process Action Team (PAT) on Contract Administration, Office of the Under Secretary of Defense for Acquisition & Technology, February 1995.

a. Background: The Under Secretary of Defense for Acquisition and Technology (USD A&T) directed that a cross functional process action team (PAT) be formed to address the reengineering of specific contract administration processes. The PAT included representatives from the Office of the Secretary of Defense (OSD), the Military Departments and the Defense Agencies. The PAT was directed to develop, within a period of 90 days, a comprehensive plan to reengineer contract administration within DoD to make specific processes more efficient and effective.

b. Findings: The PAT firmly agrees with the notion that the world in which DoD must operate has changed beyond the limits of the existing acquisition system's ability to adjust or evolve. It is simply not enough to improve the existing system. There must be carefully planned, fundamental reengineering of specific segments of the acquisition system so we can respond to the current realities of our times and the demands we will encounter in the future. The execution and operational problems that encumber today's acquisition system are often the result of yesterday's failures of foresight and implementation. The report also found that the current defense acquisition process tends to divide roles and responsibilities among requiring organizations, support organizations, acquiring activities, contract administration offices, and contractors. This process often results in solicitations where a contractor's performance risk is not fully identified prior to award or in a contract that cannot be properly executed without modification immediately after award.

c. Recommendations: The PAT recommends determination on how to best bring the expertise of the individuals responsible for ensuring satisfactory contract performance closer to the front-end of the acquisition process to achieve more synergy. Current DoD

budget constraints call for measures to improve the efficiency and effectiveness of DoD's acquisition oversight of defense contractors. It is essential to formulate a process that (1) identifies those contractors where the risk associated with reducing, disengaging or redesigning Government oversight is low, and (2) identifies a methodology for adjusting current levels of oversight based upon contractor performance.

9. The Council of Defense and Space Industry Associations (CODSIA) comments on the Advance Notice of Proposed Rule-Making (ANPR) on contract closeout published in the Federal Register on 24 September 2002.

a. Background: On 24 September 2002, the Federal Register published a request for comments on whether any changes should be considered to the FAR, Defense Supplement to FAR (DFARS), or the General Services Acquisition Regulation (SAR) to facilitate timely contract closeouts.

b. Comments: The council agrees with the ANPR that there are a number of process-related reasons that contribute to the inability to closeout contracts in a timely manner. One of the areas the council believes contribute to the delays is that Government contracting officers appear to lack the flexibility to use sound business judgment to closeout contracts. Currently the FAR does not clearly spell out contracting officer responsibilities with respect to reconciliation of contract costs. Although internal agency policies may address this issue. The current guidance on use of "quick close-outs" found in FAR Part 42.7 is overly restrictive. Although the language provides for a contracting officer waiver of the limits "based on a risk assessment," in our experience contracting officers are reluctant to exercise such discretion. Current FAR language does not address how a contracting officer should handle a contractor's failure to submit its final indirect cost rate submission. Our member companies have experienced delays in obtaining required assist audit reports for subcontractors' portions of contract costs. It is virtually impossible to closeout a prime contract until the subcontracts under it are closed. Government audit agencies must be responsive to the needs of prime contractors if the contract closeout deadline is to be achieved. CODSIA believes time frames for Government actions should be established. Currently the FAR discusses time frames for the contractor to fulfill, such as submission of a final indirect cost rate proposal within six months after fiscal year-end, and submission of

a final voucher within 120 days of settlement of indirect cost rates. The FAR is silent regarding timing of the Government's actions.

c. Recommendations: The council made the following recommendations:

i. The use of provisional indirect rates along with negotiation of costs.

ii. Allowing streamlined contract closeout where warranted based on contract type and dollar value.

iii. That language be added (perhaps to FAR Part 42) to clarify that contracting officers periodically must reconcile contracts financially to ensure that all numbers in the contract are correct, consistent, and complete, including all modifications.

iv. That the indirect dollar limitation be increased to $10 million.

v. That the percentage limitation is increased to 50 percent, and administrative agencies develop policies and procedures to guide contracting officers through the waiver risk assessment process.

vi. That a policy statement be added to FAR 42.708 requiring the use of quick closeout for subcontracts to the maximum extent possible.

vii. That a clause permits a 20 percent payment withhold against current contractor payment requests, up to the general dollar magnitude of the Government's financial exposure, when a contractor does not submit its required CAS cost impact proposal. A 10 percent payment withhold is more equitable than the current DCAA/DCMA imposition of a 20 percent decrement to a contractor's total costs for the year in which it does not submit its final indirect cost rate proposal.

viii. That part of the solution may be to create a new provision to require a contract closeout plan in the subcontract plan. Consideration should be given to deleting the requirement to closeout subcontracts as part of the prime contract closeout process. If subcontractor costs change subsequent to closure of the prime contract, then such cost reductions can be handled in a manner similar to the way other adjustments (such as income tax refunds or pension plan adjustments) are handled.

10. The Office of Acquisition and Grants, Social Security Administration comments on the Advance Notice of Proposed Rule-Making (ANPR) on contract closeout published in the Federal Register on 24 September 2002.

    a. Background: On 24 September 2002 the Federal Register published a request for comments on whether any changes should be considered to the FAR, DDFARS, or the SAR to facilitate timely contract closeouts.

    b. Comments: This office's experience with the contract closeout process associated with cost-type contracts is typically a delay due to either late submission of contract incurred cost proposals or delays associated with receipt of final contract audits.

    c. Recommendations: This office recommends several options that encourage timely submittal of incurred costs proposals; one option is to increase the amount of fee that can be held in reserve by the contracting officer per FAR Clause 52.216-8 Fixed-Fee. This increase could encourage the contractor to be timely with regard to meeting its closeout obligations. Another option to speed up the process is to eliminate the requirement to use final indirect costs rates for contract closeout in combination with eliminating the final field audit. Although eliminating these steps would significantly increase the costs risk to the Government, this office believes that a business case could be made for different contractors on a case-by-case basis.

11. Thesis- "The Contract Closeout Process at DCMC Lockheed Martin," Leigh Bandy, Naval Postgraduate School, December 1998.

    a. Background: The primary purpose of this thesis is to provide a case analysis of the contract closeout process at DCMC Lockheed Martin (LM). The contract closeout policies and procedures will be analyzed to develop a basis of comparison for DCMC LM. The analysis includes factors affecting timely contract closeout.

    b. Findings: There are no penalties for contractors who submit late final invoices or late submission of final overhead proposals. Quick closeout procedures contain limitations, which are too restrictive to provide adequate use by large cost centers such as DCMC-LM. The inability of prime contractors to settle contracts with subcontractors if often the sole reason for overaged contracts at large cost centers such as DCMC-LM.

c. Recommendations: The thesis recommended the following actions:

i. Develop pre-award agreements or contract clauses, which will allow contracts to close in a timely manner.
ii. Establish strict penalties for late submission of contractor final invoices and overhead proposals.
iii. Develop initiatives, which allow the contractor and DCAA to become more involved in contract closeout.
iv. Relax the restrictions in the Quick-Closeout Procedure to allow more widespread use.
v. Allow DCMC organizations to close contracts using interim rates when warranted.

12. Thesis- "Streamlining the Contract Closeout Process," James Valovcin, Naval Postgraduate School, December 1995.

a. Background: The primary purpose of this thesis is to review the management of the contract closeout process within DCMC and selected Department of the Navy contracting activities to determine if it is performed in an effective and efficient manner. Analysis includes the identification of the areas that impedes the process or is neglected throughout the process.

b. Findings: Priority of contract closeout improved but still roadblocks – lack of personnel and coordination problems. Contract closeout requires a great deal of coordination. The most problematic areas are the settling of all interim or disallowed costs, completing all price revisions, settling prior year indirect cost rates, and completing contract audits.

c. Recommendations: The thesis recommended the following actions:
i. Create a team including contractor to facilitate closeout procedures.
ii. Perform all actions possible, which can be accomplished during contract performance, in order to facilitate the closeout process once the contract has become physically completed.
iii. Accept the contractor's independently audited and certified indirect cost rates (rated most difficult in the survey conducted).

iv. Incentivize the contractor (list the steps required from contractor for closing out the contract in the contract and then penalize the contractor if he fails).
v. Establish specific time frames separately for each step of the process.

13. Thesis- "Applying Continuous Process Improvement to the Contract Closeout Process," Daniel J. Motherway, Naval Postgraduate School, December 1993.

a. Background: The primary purpose of this thesis is to identify how the contract closeout process within DoD might be streamlined and what a model of the process would look like. Analysis includes the identification of the critical factors or steps of the closeout process and which ones could be consolidated or eliminated.

b. Findings: There is no a single DoD wide contract closeout process. Communication and coordination between DoD activities are poor or adversarial. Use of inexperienced personnel (DCAA & DFAS) slows process, TQM can be applied to closeout process, but works best with uniform repetitive processes (CCO is not); a better automated system is needed.

c. Recommendations: The thesis recommended the following actions:

i. Develop an automated system for the administration of contracts, including a uniform process for CCO.
ii. Develop a training program for the CCO process or cover the process in more detail in contract administration courses. Current training is not adequate.
iii. Improve communications between Government organizations and commercial organizations involved in the process.
iv. Use more experienced personnel in performing CCO actions.
v. Apply TQM procedures to reduce the time required.

14. Thesis- "The Contract Closeout Process," Janet Johnson Patton, Naval Postgraduate School, June 1992.

a. Background: This thesis' main objective is to review the closeout process within DoD to determine how to make it more efficient. Other objectives are to identify the problems in the current process

and to determine the impact of failure to close out contracts in the time frame stated in the FAR.

b. Findings: Training in the contract closeout process is almost non-existence. The amount of funds that are unliquidated and could be deobligated is significant. Coordination is necessary between the various activities to efficiently close out contracts. There is no uniform system for tracking or reporting the closeout process. Cost-reimbursement contracts rarely meet the FAR timeline for contract closeout. Generally there is a lack of management commitment in contract closeout activities. Lack of incentives, or the existence of disincentives, is a major reason contractors do not submit the final invoice in a timely manner. Coordination is necessary between the various activities to efficiently close out contracts. Alternate contract closeout methods such as quick-closeout procedures are not being utilized to their fullest potential. Cost-reimbursement contracts rarely meet the FAR timeline for contract closeout.

c. Recommendations: The thesis recommended the following actions:
   i. Increase contract closeout training.
   ii. More emphasis should be put on the initial contract funds status review.
   iii. Increase coordination by increasing communications between the many activities involved in the closeout process.
   iv. Establish a DoD-wide system for collecting, reporting, and monitoring data on the contract closeout process.
   v. Management needs to increase the priority of contract closeout.
   vi. Contracts should include clauses that provide incentives to contracts to achieve timely closeout.
   vii. Utilize alternate closeout methods described in the FAR more frequently.

APPENDIX E. COST MODELS

As stated in Chapter I, this appendix presents two models to capture costs associated with contract closure within the Department of Defense. The first model presents a top-level collection of costs for each of the major stakeholders in the closeout process. It uses the stakeholders' own accounting reports to present a rough order of magnitude estimate of their organization-wide costs for closeout. The second model presents a framework for building a complex activity-based costing model made up of all of the tasks associated with contract closeout. This model presents only the tasks themselves and leaves the work hours required to accomplish them, along with the associated cost of that labor and queue/delay times, for later research efforts.

A. MODEL 1

This cost model seeks to capture only the top-level quantifiable costs of contract closeout for each of the major stakeholders involved in the closeout process. Our team obtained cost data from each of the stakeholders and attempted to adjust the costs to account solely for closeout costs. Due to the varying nature of the cost and process data collected by each of the stakeholders, some of the costs presented are a rough order of magnitude estimate based on assumptions from the available information. We attempted to capture as many of the direct and indirect costs as possible from the data provided by each stakeholder. Indeed, these overall cost estimates likely understate the actual cost of contract closeout since they do not capture oversight costs incurred by organizations such as USD(AT&L) or ASN(RD&A). We included information from interviews and studies to shape our assumptions to present the best possible estimate we could create within the available timeframe. We estimate that contract closeout actions performed by all of the major stakeholders costs DoD approximately $525,238,000 per year, or $6,272 per contract.

1. Most Significant Players

a. DCMA

Of the stakeholders, DCMA is the most active in tracking the costs of contract closeout. DCMA's PLAS pools dozens of costs associated with most contract

administration tasks, including several cost elements specifically identified as closeout-oriented. Our group collected those closeout-specific cost elements for Fiscal Year 2002 and adjusted them as necessary to best reflect the actions accomplished by DCMA. The following spreadsheet contains the Top-Level costs of DCMA, totaling approximately $101,600,000 per year, or $1,213 per contract for the nearly 84,000 contracts closed by DCMA.

b. DCAA

DCAA does not pool closeout-specific costs associated with the audits they conduct or the audit of final invoices. DCAA tracks the number of cost-incurred audits at an Agency level, but does not consider any of them as closeout specific. Some audits may serve as the final audit for dozens of contracts for any given contractor, while another cost-incurred audit may not be used for the closeout of any contracts for another contractor. As such, a major assumption was made that only 10% of all of the cost-incurred audits are closeout-related. This assumption was based on interviews with DCAA personnel. The following spreadsheet contains the Top-Level costs of DCAA, totaling approximately $71,080,000 per year, or $848 per contract for the nearly 84,000 contracts closed by DCMA.

c. DFAS

DFAS is another organization that does not specifically track closeout costs. DFAS completes two major functions associated with closeout, one is closeout processing and the other is reconciliation. Numerous assumptions were made based on the top-level costs provided by DFAS based on interviews we conducted. The following spreadsheet contains the Top-Level costs of DFAS, totaling approximately $191,416,000 per year, or $2,286 per contract for the nearly 84,000 contracts closed by DCMA.

d. Buying Commands

Interviews with personnel at several buying commands indicated that there are no measures for the specific number of labor hours necessary to conduct closeout-specific actions. Three buying commands, however, were identified as having awarded contracts for a contractor to conduct actions associated with closeout. As such, those contracts appeared to be the most relevant means of collecting the labor costs of

conducting closeout. Each buying command contracted for closeout-related services as an associated task along with multiple other tasks. Closeout was not identified as a Contract Line Item Number (CLIN) within the respective Service's contracts. As such, specific costs associated with closeout were not available from the contractor, although estimates could be made based on the experience of those involved in closeout actions under the contract. We had to make a significant assumption based on the overall number of contracts, since it would be impossible for our group to assemble the estimated closeout costs for each of the buying commands listed in MOCAS. The following spreadsheet contains the Top-Level costs of DoD-wide buying activities, totaling approximately $61,129,000 per year, or $730 per contract for the nearly 84,000 contracts closed by DCMA.

e. Contractor

Of the contractors we contacted to obtain closeout costs, only one had any kind of estimate of costs associated with their closeout efforts, although all of them noted the burden closeout can impose. That contractor stated a cost of approximately 10% of the total value of the contract as a cost estimate for their closeout costs. This estimate is based on their assumption that larger dollar value contracts normally contain more complex terms, require more coordination with the Government to resolve reconciliation issues such as property and payment resolution, and are far more likely to encounter problems during closeout actions. Other contractors estimated far lower values as the cost of closeout, although an average of approximately 2.5% of the total value of the contract was given on several occasions. This percentage takes into account the varying complexities of contracts and assumes that the higher dollar contracts would require additional costs to close due to the complex nature of administrative actions associated with higher dollar value contracts. The following spreadsheet contains the Top-Level costs for contractors, totaling approximately $100,000,000 per year, or $1,194 per contract for the nearly 84,000 contracts closed by DCMA.

Table 19 identifies the top-level costs organization costs associated with contract closeout.

COST MODEL 1 - Top-Level Closeout Costs

Assumptions:

1. Total contracts closed per DCMA was 334,953, of which 83,739 were complex enough to require notable labor hrs
2. DCMA PV processing, 10% is for closeout
4. DFAS/DCMA Estimate of 25% of contracts require complex reconciliation (see assumption 1)
5. Replacement funding is taking average of 90 to 120 days

DCMA

Cost Code		
181	749,049	Contract Closeout
44	99,041	Final OVHD Rates
105	141,578	Plant Clearance/Property Clearance
141	126,953	Public Voucher Processing
TOTAL	1,116,621 hours	

times $91 (burdened labor rate)

$ 101,612,511 for closeout actions, or $1213.03 per contract

DCAA

1,716,751 total incurred cost audits
171,675 Assumption that 10% of total audits are closeout-related
686,700 Total Hours in auditing for closeout (Estimate of 4 hours per audit)
times $ 103.51 (benchmark hourly audit rate of actual expenses)

$ 71,080,358 for closeout actions, or $848.83 per contract

DFAS

Closeout Process

8 Hours to complete average closeout process
15.49 Hourly average rate (based on GS-5/GS-6)
83,739 Number of Contract Closeouts in FY2002
$ 10,376,937 COST of DFAS Closeout Process

Reconciliation Process

83,739 Contracts Requiring Complex Reconciliation
20 AVG number of hours to complete Complex Reconciliation
251,214.00 Contracts Requiring Simple Reconciliation
3 AVG number of hours to complete Simple Reconciliation
$ 181,038,860 times $74.55 (fully burdened billing rate for reconciliation)

$ 191,415,797 for closeout actions, or $2285.86 per contract

Contractor

83,739 Number of Contracts closed
4,000,000,000 Approximate obligated dollar value remaining on DoD contracts entering MOCAS CAR Section 2
100,000,000 2.5% of total dollar value (estimate of contractor cost for each contract)

$ 100,000,000 for closeout actions, or $1,194.19 per contract

Buying Activity

83,739 Number of Contracts closed in FY2002
730 Average Estimated cost to close each contract

$ 61,129,470 for closeout actions, or $730 per contract

SUMMARY OF COSTS

$ 525,238,136 for closeout actions

$ 6,272.00 Cost per contract

note, this cost is in line with approximate costs charged by DOE per their CCO Business Line Report dated 29 March 2001
They charge $4960 for routine cost-type and $11,160 for non-routine cost-type closeout or
they charge $240 for routine FFP-type and $540 non-routine FFP-type closeout

Table 19. Top-Level Organization Costs of Contract Closeout.

B. MODEL 2

This model utilizes Microsoft EXCEL© to identify all of the tasks associated with contract closeout. Every major stakeholder's tasks are identified, as are the differences in closeout that occur between fixed-price and cost-type contracts. This model is only the first step in the creation of a cost tracking and cost estimation model that will eventually included cost data for each task, such as the length of time (labor hours) required to complete each task as well as the appropriate pay level of the person completing the task. The model is useful in not only determining the overall cost, but in identifying potential mis-matches of tasks to the seniority of the personnel assigned to complete that task. For example, if a GS-12 is completing many of the simple-repetitive tasks that would be more suited to the GS-7 level, then there is a mis-match in labor mix that must be resolved by management. Similarly, there may be many hidden costs of closeout that are identified in this model that are not captured in any of the individual organizations' cost accounting systems, such as queue delays or FEDEX costs for shipping closeout paperwork, etc. The following list of tasks is our estimation of all of the actions required to accomplish contract closeout. Once the listing of tasks was assembled, we created a cost estimation model based on the specific cost elements identified in the listing of tasks. We assigned a column for labor hours, a rate based on the likely pay level of personnel completing each task, and an extended total for each cost element. This model can be populated by follow-on studies to obtain a far more detailed level of accounting for costs across the various stakeholders involved in contract closeout.

Table 20 lists the tasks associated with contract closeout, while Table 21 provides the cost elements in which the costs of individual tasks can be accumulated.

Table 20. Cost Model 2 – Tasks Performed During Contract Closeout.

MODEL 2 - CONTRACT CLOSEOUT TASKS

Tasks Performed During Contract Closeout Process	Contract Type		Cognizant Office Responsible (COR)					
	FFP	Cost		DCAA	DCMA	DFAS	Buying Command	Contractor
Final Acceptance Document Received (Final DD 250)								
Enter acceptance document information into MOCAS	X	X			X			
Move contract file to MOCAS Section 2	X	X			X			
Send interim PK9 report or DD 1594 to buying activity	X	X			X			
Review contract file for closeout requirements	X	X			X			
Commence specialized closeout activities (DD 1597)	X	X			X			
Determine if contractor has submitted final invoice	X	X			X			
Notify contractor of need to submit final invoice	X	X			X			
If no response, unilaterally determine invoice	X				X			
Contractor submit final invoice	X	X						X
Identify and Deobligate Excess Funds								
Review funds status	X	X			X			
Review of obligations/posting of disbursements at ACRN	X	X			X			
Notify PCO of any excess available	X	X			X			
(If any excess funds):								
Issue a modification to release excess funds	X	X			X			
Process modification to release excess funds	X	X			X			
Process modification to release excess funds						X		
(If a NULO exists):								
Conduct review at ACRN level to determine the cause	X				X			
Send adjustment request to DFAS (DD 1797)	X				X			
(If unable to determine cause):								
Initiate full reconciliation (ACO, DFAS, Contractor)	X				X	X		X
Disposition of Government Property and Plant Clearance								
Accept/reject inventory schedules	X	X			X			
Open plant clearance case	X	X			X			
Process referral to cognizant PLCO	X	X			X			
Verify inventory and determine allocability	X	X			X			
Submit property for reutilization screeening	X	X			X			
Request disposition instructions from PCO					X			
PCO contact other interested programs for use							X	
Issue disposition instructions	X	X					X	
Process transfer/donation of Government property	X	X			X			
Control demilitarization and trade security	X	X			X			
Close plant clearance case/ annotate closure file	X	X			X			
Disposition of Classified Material								
Notify DIS of contract completion (DD 1593)	X	X			X			
Ensure prime contractor clears all sub-contractors	X	X			X			
Contact all sub-contractors to complete disposition	X	X			X			X
Anotate DD Form 1597 with notification date	X	X			X			
Provides disposition instructions	X	X			X			
Notifies PCO after completion	X	X			X			
Final Patent and Royalty Report								
Process contractor/sub-contractor submissions (DD 882)	X	X			X		X	X
Provide instructions to contractor	X	X			X		X	
Exercise withholding of payments	X	X			X			
Investigate notices of infringement	X	X			X		X	
Administer reporting or refund of royalties	X	X			X			
Complete DD 882 after clearance is received	X	X			X			

Tasks:	FFP	Cost		DCAA	DCMA	DFAS	Buying Command	Contractor
Value Engineering Change Proposal (VECP) Completed								
Submit all pending VECPs		X						X
Review contract/VECP evaluation		X			X		X	
Submit cost proposal		X						X
Negotiate value of savings		X			X			X
Issue contract modification		X			X			
Termination Docket Complete (Contract Termination)								
Establish termination docket	X	X			X			
Termination for Default								
Ensure completion of all legal actions	X	X			X		X	X
Termination for Convenience								
Review termination for convenience notice	X	X			X		X	
Forward termination notice and contract documents	X	X			X			X
Conduct post-termination conference	X	X			X			X
Issue no-cost bilateral agreement	X	X			X			X
Issue non-appealable determination	X	X			X			
Review settlement proposal	X	X			X			
Obtain field reviews	X	X			X			
Prepare pre-negotiation position	X	X			X			
Negotiate settlement	X	X			X			X
Issue bilateral contract modification	X	X			X			X
Ensure completion of termination docket	X	X			X			
Subcontracts Settled by Prime Contractor								
Perform audit of subcontractors		X		X				X
Conduct negotiations with subs, as necessary		X		X				X
Settle with all subcontractors		X						X
Calculate final rates	X	X						X
Submit final rate determinations to DCMA/DCAA	X	X						X
Desk Review								
Review Certificate of Indirect Costs		X		X				
Scan proposal for unusual items		X		X				
Scan proposal to determine significant changes from prior year proposal		X		X				
Verify mathmatical accuracy		X		X				
Incorporate Corp/Home Audit results if significant allocation		X		X				
Execute a rate agreement letter		X		X				
Contracting officer negotiate rates (optional)		X		X				
Issue review report, include CACWS		X		X				
Direct contractor to adjust provisional billing rate		X		X				
Audit of Incurred Costs		X		X				
Review Proposal		X		X				
Determine ADV		X		X				
Classify proposal as low risk or high risk		X		X				
Review prior year(s) cost audits		X		X				
Conduct comparative analysis		X		X				
Determine low risk sample pool		X		X				
Identify contractor's status with respect to CAS		X		X				
Determine if there is a mixture of DoD and Non DoD contracts		X		X				
Identify special contract terms		X		X				
Obtain and review contract briefs		X		X				
Determine if it will be a multiyear audit		X		X				

Table 20. Continued.

Table 20. Continued.

Tasks:	FFP	Cost		DCAA	DCMA	DFAS	Buying Command	Contractor
Perform transaction testing Mandatory Annual Audit Requirements		X		X				
Evaluate the internal Control Audit Summary, Disclosure Statements		X		X				
Complete DMIS CAS compliance audits and CAS tracking non-compliances		X		X				
Evaluate changes in procedures and practices for charging direct or indirect costs		X		X				
Review Corporate minutes		X		X				
Conduct Discussions with personnel and plant observations		X		X				
Report changed conditions		X		X				
Evaluate reasons for using voluntary management reductions		X		X				
Prepare appropriate CAS Noncompliance and Internal Control Deficiency Reports		X		X				
Test methods of allocation		X		X				
Evaluate distro of home office expenses/corporate office expenses		X		X				
Select Accounts		X		X				
Determine the method the contractor establishes new production lines		X		X				
Evaluate idle facilities		X		X				
Observe manufacturing facilities		X		X				
Account Nomenclature review		X		X				
Comparitivce analysis of accounts		X		X				
Graphic and computational analysis of accounts		X		X				
Analysis of specific accounts		X		X				
Analysis of Contigent expenses		X		X				
Determine Allowability, allocability, reasonableness		X		X				
Compute and Assess Penalties		X		X				
Reconcile costs to records		X		X				
Verify the base		X		X				
Compare interim billings to final rate		X		X				
Issue Audit Report		X		X				
Issue notices of costs suspended		X		X				
Hold exit conference		X		X				
Review Cumulative Allowable cost Worksheet		X		X				
Select base period		X						X
Determin indirect cost pools		X						X
Compute Cost of Money		X						X
Determine direct costs		X						X
Determine appropriate cost drivers		X						X
Compute G&A		X						X
Adjust rates		X						X
Submit reimbursement voucher		X						X
Develop and Certify indirect rate cost proposal		X						X
Settle Interim or Disallowed Costs								
Submit incurred cost proposal		X						X
Audit incurred cost proposal		X		X				
Negotiate interim or disallowed costs		X		X	X			X
Complete documentation for Interim or Disallowed Costs		X		X	X			
Complete Price Revisions								
Review Price adjustment clauses		X			X			X
Settle final price adjustments		X			X			X
Indirect Costs are Settled								
Determine status of contractor		X			X			X
Provide monthly status reports		X			X			
Hold conference with team		X			X			

Tasks:	FFP	Cost		DCAA	DCMA	DFAS	Buying Command	Contractor	
Review real-time of incurred costs		X			X				
Determine supporting costs/pricing data		X			X				
Review certified proposal		X			X				
Negotiate Quick-closeout rates		X			X				X
Forward proposal for DCAA/Contractor agreement		X		X					X
Process DCAA/Contractor agreement									
Review DCAA Form 1 and advisory report		X			X				
Negotiate final indirect rates		X			X				
Issue final determination		X			X				
Prepare/execute settlement agreement		X			X				
Submission of Final Invoice/Closing Statement									
Submit final invoice/closing statement		X							X
Review final invoice/closing statement		X			X				
Audit final invoice/Issue CACWS		X		X					
Approve final invoice for payment		X			X				
Administer Final Payment									
Review final invoice (pre-validation)	X	X			X				
Conduct full reconciliation (if needed)	X	X		X	X				X
Request replacements funds (if funds canceled)	X	X			X				
Letter to buying command to request funds	X	X			X				
Determine if funds available	X	X					X		
Obtain fuding approval from Comptroller	X	X					X		
Transfer funding to requiring account	X	X					X		
Forward replacement funding to DFAS	X	X					X		
Receive notice of replacement funds	X	X				X			
Issue final payment	X	X				X			
Forward notice of availability of funds for de-obligation	X	X				X			
Notify PCO of any excess available	X	X			X				
Issue a modification to release excess funds	X	X			X				
Process modification to release excess funds	X	X				X			
Final Closeout Actions									
Issue final NLA	X	X			X				
Notify buying activity (PK9 or DD Form 1594)	X	X			X				
Move contract file to MOCAS Section 5	X	X			X	X			
Close the Contract File	X	X			X	X	X		X

Table 20. Continued.

MODEL 2 - COST OF TASKS PERFORMED DURING CONTRACT CLOSEOUT

Cost Elements:	Labor Hours	Hourly Rate	Extended Cost
Final Acceptance Document Received (Final DD 250)			
Enter acceptance document information into MOCAS			
Move contract file to MOCAS Section 2			
Send interim PK9 report or DD 1594 to buying activity			
Review contract file for closeout requirements			
Commence specialized closeout activities (DD 1597)			
Determine if contractor has submitted final invoice			
Notify contractor of need to submit final invoice			
If no response, unilaterally determine invoice			
Contractor submit final invoice			
Identify and Deobligate Excess Funds			
Review funds status			
Review of obligations/posting of disbursements at ACRN			
Notify PCO of any excess available			
(If any excess funds):			
Issue a modification to release excess funds			
Process modification to release excess funds			
Process modification to release excess funds			
(If a NULO exists):			
Conduct review at ACRN level to determine the cause			
Send adjustment request to DFAS (DD 1797)			
(If unable to determine cause):			
Initiate full reconciliation (ACO, DFAS, Contractor)			
Disposition of Government Property and Plant Clearance			
Accept/reject inventory schedules			
Open plant clearance case			
Process referral to cognizant PLCO			
Verify inventory and determine allocability			
Submit property for reutilization screeening			
Request disposition instructions from PCO			
PCO contact other interested programs for use			
Issue disposition instructions			
Process transfer/donation of Government property			
Control demilitarization and trade security			
Close plant clearance case/ annotate closure file			
Disposition of Classified Material			
Notify DIS of contract completion (DD 1593)			
Ensure prime contractor clears all sub-contractors			
Contact all sub-contractors to complete disposition			
Anotate DD Form 1597 with notification date			
Provides disposition instructions			
Notifies PCO after completion			
Final Patent and Royalty Report			
Process contractor/sub-contractor submissions (DD 882)			
Provide instructions to contractor			
Exercise withholding of payments			
Investigate notices of infringement			

Table 21. Cost of Tasks Performed During Contract Closeout.

Cost Elements:	Labor Hours	Hourly Rate	Extended Cost
Administer reporting or refund of royalties			
Complete DD 882 after clearance is received			
Value Engineering Change Proposal (VECP) Completed			
Submit all pending VECPs			
Review contract/VECP evaluation			
Submit cost proposal			
Negotiate value of savings			
Issue contract modification			
Termination Docket Complete (Contract Termination)			
Establish termination docket			
Termination for Default			
Ensure completion of all legal actions			
Termination for Convenience			
Review termination for convenience notice			
Forward termination notice and contract documents			
Conduct post-termination conference			
Issue no-cost bilateral agreement			
Issue non-appealable determination			
Review settlement proposal			
Obtain field reviews			
Prepare pre-negotiation position			
Negotiate settlement			
Issue bilateral contract modification			
Ensure completion of termination docket			
Subcontracts Settled by Prime Contractor			
Perform audit of subcontractors			
Conduct negotiations with subs, as necessary			
Settle with all subcontractors			
Calculate final rates			
Submit final rate determinations to DCMA/DCAA			
Desk Review			
Review Certificate of Indirect Costs			
Scan proposal for unusual items			
Scan proposal to determine siginficant changes from prior year proposal			
Verify mathematical accuracy			
Incorporate Corp/Home Audit results if significant allocation			
Execute a rate agreement letter			
Contracting officer negotiate rates (optional)			
Issue review report, include CACWS			
Direct contractor to adjust provisional billing rate			
Audit of Incurred Costs			
Review Proposal			
Determine ADV			
Classify proposal as low risk or high risk			
Review prior year(s) cost audits			
Conduct comparative analysis			
Determine low risk sample pool			

Table 21. Continued.

Cost Elements:	Labor Hours	Hourly Rate	Extended Cost
Identify contractor's status with respect to CAS			
Determine if there is a mixture of DoD and Non DoD contracts			
Identify special contract terms			
Obtain and review contract briefs			
Determine if it will be a multiyear audit			
Perform transaction testing Mandatory Annual Audit Requirements			
Evaluate the internal Control Audit Summary, Disclosure Statements			
Complete DMIS CAS compliance audits and CAS tracking non-compliances			
Evaluate changes in procedures and practices for charging direct or indirect costs			
Review Corporate minutes			
Conduct Discussions with personnel and plant observations			
Report changed conditions			
Evaluate reasons for using voluntary management reductions			
Prepare appropriate CAS Noncompliance and Internal Control Deficiency Reports			
Test methods of allocation			
Evaluate distro of home office expenses/corporate office expenses			
Select Accounts			
Determine the method the contractor establishes new production lines			
Evaluate idle facilities			
Observe manufacturing facilities			
Account Nomenclature review			
Comparitivce analysis of accounts			
Graphic and computational analysis of accounts			
Analysis of specific accounts			
Analysis of Contigent expenses			
Determine Allowability, allocability, reasonableness			
Compute and Assess Penalties			
Reconcile costs to records			
Verify the base			
Compare interim billings to final rate			
Issue Audit Report			
Issue notices of costs suspended			
Hold exit conference			
Review Cumulative Allowable cost Worksheet			
Select base period			
Determin indirect cost pools			
Compute Cost of Money			
Determine direct costs			
Determine appropriate cost drivers			
Compute G&A			
Adjust rates			
Submit reimbursement voucher			
Develop and Certify indirect rate cost proposal			
Settle Interim or Disallowed Costs			
Submit incurred cost proposal			
Audit incurred cost proposal			
Negotiate interim or disallowed costs			
Complete documentation for Interim or Disallowed Costs			
Complete Price Revisions			
Review Price adjustment clauses			

Table 21. Continued.

Cost Elements:	Labor Hours	Hourly Rate	Extended Cost
Settle final price adjustments			
Indirect Costs are Settled			
Determine status of contractor			
Provide monthly status reports			
Hold conference with team			
Review real-time of incurred costs			
Determine supporting costs/pricing data			
Review certified proposal			
Negotiate Quick-closeout rates			
Forward proposal for DCAA/Contractor agreement			
Process DCAA/Contractor agreement			
Review DCAA Form 1 and advisory report			
Negotiate final indirect rates			
Issue final determination			
Prepare/execute settlement agreement			
Submission of Final Invoice/Closing Statement			
Submit final invoice/closing statement			
Review final invoice/closing statement			
Audit final invoice/Issue CACWS			
Approve final invoice for payment			
Administer Final Payment			
Review final invoice (pre-validation)			
Conduct full reconciliation (if needed)			
Request replacements funds (if funds canceled)			
Letter to buying command to request funds			
Determine if funds available			
Obtain fuding approval from Comptroller			
Transfer funding to requiring account			
Forward replacement funding to DFAS			
Receive notice of replacement funds			
Issue final payment			
Forward notice of availability of funds for de-obligation			
Notify PCO of any excess available			
Issue a modification to release excess funds			
Process modification to release excess funds			
Final Closeout Actions			
Issue final NLA			
Notify buying activity (PK9 or DD Form 1594)			
Move contract file to MOCAS Section 5			
Close the Contract File			
Total Costs:			**$**

Table 21. Continued.

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