

Contracting Officer Representatives:

**Managing the Government's
Technical Experts to Achieve
Positive Contract Outcomes**



**A Report to the President and Congress of the United States
by the U.S. Merit Systems Protection Board**

THE CHAIRMAN



U.S. MERIT SYSTEMS PROTECTION BOARD
1615 M Street, NW
Washington, DC 20419-0001

December 2005

The President
President of the Senate
Speaker of the House of Representatives

Dear Sirs:

In accordance with the requirements of 5 U.S.C. 1204(a)(3), it is my honor to submit this U.S. Merit Systems Protection Board report, "Contracting Officer Representatives: Managing the Government's Technical Experts to Achieve Positive Contract Outcomes."

Without question contracting is an appropriate and effective way to accomplish an important share of the Government's work. The volume of contract spending—\$328 billion in fiscal year 2004, up 87% from FY 1997—demonstrates the importance of developing and managing Federal contracts in ways that will ensure the best contract outcomes and the best return on the taxpayers' dollar. In recent years, the Government has modernized its contracting rules and procedures and improved the management of contracting officers who carry out the business aspects of contracting. However, almost no work has been done to assess agencies' management of contracting officer representatives (CORs). These individuals provide the technical expertise necessary to convey the technical requirements of the Government, oversee the technical work of the contractor, and ensure that deliverables meet the technical requirements of the Government. Even the best managed contract is not successful if its deliverables fail to meet the technical requirements of the Government.

This report provides findings and recommendations based on our survey of CORs from 10 agencies that accounted for 90% of the Government's contracting dollars. These highly experienced CORs provide a compelling and authoritative perspective on contracting and on how they can be better managed to ensure positive contract outcomes. The report includes recommendations on managing CORs that are empirically related to more positive contract outcomes in terms of the quality, completeness, timeliness, and cost of deliverables. Agencies need to do better at fulfilling the regulatory requirements for managing CORs and manage them better on a day-to-day basis so that CORs can do their part in ensuring positive contract outcomes.

I believe you will find this report useful as you continue your efforts to improve how contracts are developed and managed, and thus improve contract outcomes on behalf of the taxpayer.

Respectfully,

A handwritten signature in black ink, appearing to read "Neil A. G. McPhie".

Neil A. G. McPhie

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U.S. Merit Systems Protection Board

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Executive Summary

There is no question that contracting is an effective and efficient way to accomplish a significant share of the Government's work. While there may be disagreement over what is contracted and why, everyone can agree that contracts must be developed and managed well to ensure positive contract outcomes—deliverables that meet Government requirements for quality, completeness, timeliness and cost. This report concerns the role of contracting officer representatives (CORs)—the Government's technical experts who are responsible for developing and managing the technical aspects of contracts. We surveyed CORs from 10 agencies that accounted for 90 percent of the Government's contracting dollars. Based on the findings from this survey, we make recommendations for agencies to improve the regulatory and day-to-day management of CORs. In particular, agencies need to fulfill the regulatory aspects of managing CORs to include formal delegation of authority, improved COR training, and strategic management of the COR workforce. Agencies also need to improve the day-to-day management of CORs. These day-to-day issues include improving COR selection and assignment, ensuring CORs begin early in the contracting process, ensuring CORs perform critical pre-award technical contracting tasks, ensuring CORs have enough time to do their contracting work, rating CORs on the performance of their contracting work, and considering the other Federal employees who affect the COR's contracting work. Fulfilling the regulatory requirements for managing CORs and managing CORs more effectively day-to-day are significantly related to more positive contract outcomes. Taking these steps will help ensure that the over \$325 billion spent on contracting achieves effective and efficient results for the taxpayer.

The billions of dollars that Federal agencies spend annually to purchase products and services from contractors is a testament to the fact that the Government finds contracting to be an appropriate and effective way to accomplish a significant part of its work. The volume of contract spending—\$328 billion in FY 2004,¹ up 87 percent from the approximately \$175 billion spent in FY 1997—also demonstrates the critical importance of developing and managing Federal contracts in ways that will ensure the best contract outcomes and the best return on the taxpayers' dollars.

How can Federal agencies fulfill the public's expectation and their own needs for contract "deliverables"—the purchased products or services—that meet Government requirements for quality, completeness, cost, and timeliness?² Well-developed and

¹Total amount spent on contracts valued over \$25,000 each.

²The Federal Acquisition Regulation (FAR), Title 48 Code of Federal regulations, Chapter 1, Section 1.102(b) – with completeness added as a fourth outcome.

well-managed contracts need appropriate and transparent rules and procedures, plus a Federal contracting workforce that can effectively apply them. In recent years, the Government has modernized contracting rules and procedures to better support its ever-increasing use of technology and the shift to knowledge-based work, as well as to balance the need for both flexibility and accountability.

Considerable effort has also been made to improve agencies' management of their contracting officers (COs), who carry out the business aspects of contracting. However, from a business perspective, even the best managed contract is not successful if its deliverables fail to meet technical and program requirements. Despite this imperative, almost no work has been done to assess agencies' management of CORs—the employees who provide the technical expertise necessary to clearly convey the Government's technical requirements; to oversee the technical work of the contractor; and to ensure that the deliverables meet the technical requirements of the Government.

The purpose of this study was to examine the COR and to recommend how it can be better managed to ensure positive contract outcomes.³ In 2003, the U.S. Merit Systems Protection Board (MSPB) surveyed a sample of civilian CORs from 10 agencies that had spent approximately 90 percent of the Government's FY 2000 contracting dollars. The CORs who responded gave us information about their education, their technical work, their training in Federal contracting, the types of contracts they work on, and how their agencies managed them in the performance of their contracting work. Our survey also asked CORs about their contracts' quality, completeness, timeliness, and cost of deliverables, so that we could determine which COR management practices were related to positive contract results. CORs provided a compelling and authoritative perspective on Federal contracting, and their survey responses provided the information on which we base our recommendations.

Our findings

CORs are very experienced employees working in a complex contracting environment

The CORs in our study were highly educated, well paid Federal civilian employees serving in highly graded, non-supervisory, professional and technical occupations. Their responses indicated that they are very experienced as Federal employees and as CORs. They frequently work in a highly complex contracting environment, and most do not appear to have the luxury of specializing in one type of contract. In the 2 years prior to the survey, their contracts involved multiple products and services—whether on the same contract or simultaneous contracts—ranging from commercial off-the-shelf products to professional consulting to research and development

³ We studied both CORs and Contracting Officer Technical Representatives (COTRs). Employees doing this work may have other titles in some agencies. In this report, we refer to both as CORs.

services. Most CORs were typically involved simultaneously in contracts with different pricing arrangements. These pricing arrangements could range from simple fixed-price contracts to cost-reimbursable or performance-based contracts. Over half typically worked on contracts of \$1 million or less, and about one-quarter on contracts of \$5 million or more. About half worked on contracts of 4 or more years in duration. This highly complex contracting environment places significant demands on CORs, making it even more important for agencies to manage their CORs well so they can do their part to achieve positive contract outcomes.

Not all contracts succeed, and simple contracts are not necessarily more successful

To ascertain the best agency strategies for COR management, we asked CORs to rate their contract deliverables as to whether they were of high quality, completed on time, complete when submitted, and delivered at a fair and reasonable cost. About 52 percent of responding CORs agreed or strongly agreed that their deliverables had achieved all four contract outcomes simultaneously—which means that nearly half of CORs experienced less than intended outcomes in at least one of the outcome categories.⁴

According to our data, simpler contracts—such as those with only fixed prices—do not necessarily have better outcomes. Contract outcomes were not related to the types of products or services being purchased or to the pricing arrangement of the contract. Longer contracts were related to higher quality outcomes, and longer contracts were related to higher quality, more complete and more timely deliverables. These findings indicate that efforts to improve contract outcomes by changing the type of contract, for example shifting to more straightforward commercial fixed-price contracts, will not likely have a substantial impact on contract outcomes.

Many aspects of managing CORs are related to more positive contract outcomes

We looked at two key aspects of COR management to identify ways to manage CORs so they can do their contracting work more effectively and thus achieve more positive contract outcomes. We first examined the regulatory requirements for managing CORs, including formal delegation of authority to the COR by the CO, ensuring that CORs get appropriate training in contracting, and strategic management of the COR workforce. Second, we studied the day-to-day managerial decisions, including how CORs were selected, when they first become involved with a particular contract, and what contracting tasks they would perform on a contract. We also looked at ensuring CORs have enough time for their contracting work and at rating them on their performance of their contracting duties. Finally, we looked at the effect on CORs of the other Federal employees with whom CORs work in performing their contracting duties.

⁴ Does not add to 100 percent due to rounding.

Regulatory requirements for managing CORs. The Federal Acquisition Regulation (FAR) requires COs to formally delegate authority to the COR for each contract. This step ensures that CORs are fully aware of what they must do and what they cannot do on a particular contract. However, only about half of our CORs reported that they were always formally delegated the authority to perform their contracting work. Even more troubling, about 25 percent said they had never been formally delegated their COR authority. This finding takes on even more importance because CORs who were formally delegated their authority also reported more positive contract outcomes.

When asked about their contracting training, CORs' responses showed that more training in some contracting topics (e.g., specifying requirements, or assessing bids) had a positive impact on contract outcomes. Training in some contracting topics improved contract quality, completeness, and cost, while training in some other contracting topics improved only one or two of these contracting outcomes. More training in the COR's technical/functional area and more training in general competencies (e.g., communication skills or interpersonal relations) also related to better contract outcomes. When asked about their training needs, more CORs reported needing training in their technical/functional area than in any other topic. However, approximately half of CORs reported significant training needs in almost every contracting topic and in each general competency. More importantly, even CORs with 6 or more years of experience as a COR reported moderate or significant training needs in many areas—indicating that agencies cannot provide training only once and expect CORs to maintain their competence. Finally, CORs reported that the most useful methods of training were those which gave them the chance to interact with other experienced CORs, COs, and managers. The least useful training methods were computer-based training or self-paced learning. These findings indicate that agencies need to focus their COR training resources on the right substantive areas and deliver training in ways that will ensure effective returns.

Office of Management and Budget (OMB) policy requires each agency to identify and strategically manage its COR workforce. This is to ensure that agencies have—and will in the future have—enough CORs with the right skills to do the agency's current and future contracting work. To do this, agencies must be able to identify and locate their CORs and keep track of their competencies. Unfortunately, while conducting this study, we found that many agencies were not able to readily identify or locate their CORs, or accurately track their training or skills. Agencies must overcome these management challenges if their COR workforce is to be sufficient to meet the Government's present and future needs.

Day-to-day management of CORs. Various day-to-day managerial actions can ensure that CORs have the structure and management support they need from their agencies. CORs who believed that they were selected and assigned by their agencies based on their functional/technical expertise and their knowledge of contracting also reported better contract outcomes. However, many agencies do not have specific guidance or criteria for selecting CORs. Because of the importance of COR work, it may be advisable for agencies to establish more formal criteria for COR selection rather than leave this process to chance. In addition, our data indicate that when CORs begin their involvement on a particular contract early in the contracting process, they report better contract outcomes than if they begin their work after the contract was awarded. When CORs are involved early in the process, they are better able to ensure that the contract clearly sets out the technical requirements. This helps the COR manage the contract once it is awarded.

When our CORs were involved in both the pre-award and post-award technical tasks of the contract, they reported better contract outcomes. In addition, when CORs perceived they had enough time for their contracting work, they reported better outcomes. Interestingly, spending a larger proportion of their time working on contracts did not lead directly to reports of improved contract outcomes. It was the CORs' perception of having enough time that was the issue. This means that agencies need to communicate with CORs about their time needs and then help CORs balance their contracting and non-contracting work to ensure CORs can devote sufficient time to their contracts. CORs who report that their agencies rate them on the performance of their COR duties also reported better contract outcomes. In addition, CORs' interactions with COs, agency managers at all levels, and with other Federal employees working on contracts affects how well they can do their jobs. We found that when CORs had positive perceptions of these groups—i.e., perceptions that these groups were competent, ethical, and supportive of the COR—CORs also reported better contracting outcomes.

Recommendations to manage CORs more effectively

Agencies have the primary responsibility for ensuring that CORs are managed well. And, within agencies, several groups of people share responsibility for managing CORs. These groups include COs, COR supervisors, program or line managers, senior agency leaders, agency procurement managers, and agency human resources (HR) managers. CORs can also take certain actions to help themselves perform their contracting work more effectively. In addition, Governmentwide policymakers have an important role in determining effective policies and establishing Governmentwide systems that are more efficient than agency specific ones. In particular, the MSPB recommends the following:

Fulfill the regulatory requirements for managing CORs

Our data provide empirical support for the value of fulfilling the regulatory requirements for managing CORs. Formally delegating authority to the COR and providing more COR training were both related to more positive contract outcomes. In addition, strategic management of the COR workforce is critical to ensuring that agencies have the technical expertise to develop and oversee their contracts. If agencies do nothing else, they should endeavor to comply with these regulatory requirements:

- ❑ Ensure that COs formally delegate to CORs the authority to work on particular contracts
- ❑ Ensure that CORs receive adequate training in contracting topics, their technical area, and general competencies at the right time, and delivered in the right way
- ❑ Strategically manage the COR workforce by identifying and locating their CORs, and tracking their competencies

Improve the day-to-day management of CORs

Some agencies are performing some day-to-day management actions relatively well. However, all agencies need to improve their management of CORs by performing at least one of the day-to-day management actions more effectively. Agencies should consider the following management actions that were related to more positive contract outcomes:

- ❑ Improve the degree to which CORs are selected and assigned based on established criteria
- ❑ Improve the frequency with which CORs begin working on a contract early in the contracting process
- ❑ Ensure that CORs perform all the pre-award and post-award technical tasks of the contract
- ❑ Ensure that CORs have enough time for their contracting work
- ❑ Rate CORs on the performance of their contracting duties
- ❑ Consider the impact of other employees on a COR's work and make adjustments as needed

Introduction

Contracting can be a very effective and appropriate way to accomplish an important share of the Government's work. There is no question that contractors can provide many products and services more effectively and/or efficiently than the Government. Reasonable people can and do disagree on what products and services should be contracted, in what way, and to whom. However, everyone can agree that when agencies do contract for products and services, they must develop and manage those contracts as effectively as possible. Federal employees must ensure that they develop and manage contracts well. Only then can contracting results meet the public's interest in terms of providing deliverables that are of high quality, complete, timely, and cost effective.

MSPB's interest in this issue involves the merit principles related to working in the best interests of the public, effective and efficient management, and ensuring a properly trained workforce. As stewards of the taxpayers' money, the Federal employees involved in contracting must act in the public's interest to ensure contracting dollars are managed in accord with the law and regulation and that contracts result in deliverables that meet the technical needs of the Government. The contracting process itself, as well as managing the employees involved in the contracting process, must be carried out effectively and efficiently. Finally, the employees involved in contracting must have the training they need to perform their contracting work effectively.

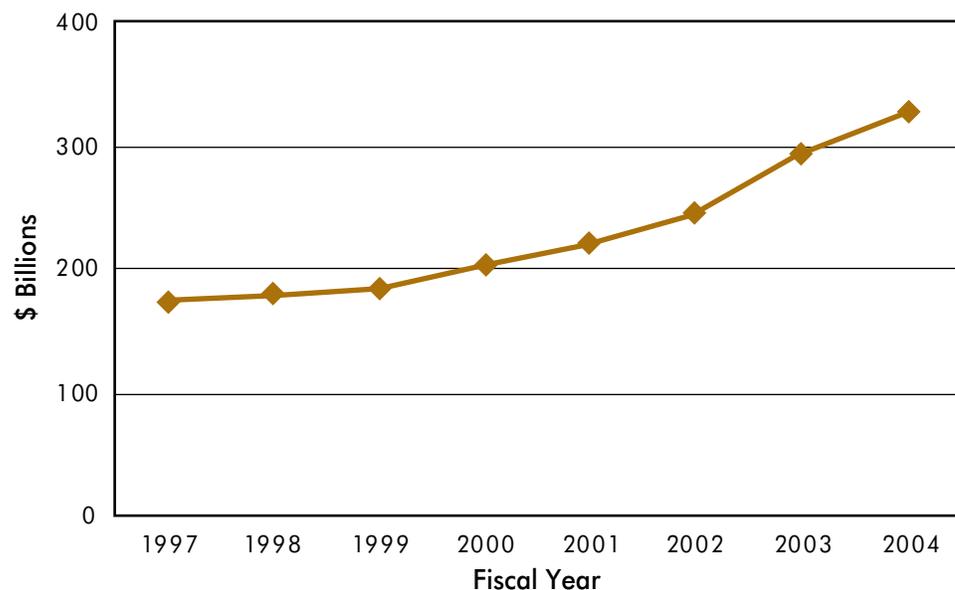
Recent trends in contracting

To understand the importance of the issues involved in COR management, it is helpful to review briefly some of the most recent trends in contracting. In recent years, the dollar value of contracting has increased and the types of contracts have changed. In addition, there have been changes in the number of Federal employees who are involved in contracting.

Buying more and increasingly complex products and services

The work of the Government has changed over time as technology has become a critical part of its everyday work and as we have shifted from an industrial- to a knowledge-based economy. These changes have caused agencies to procure an increasingly complex and costly array of products and services from contractors. As **Figure 1** shows, the amount spent annually on contracting increased from \$175 billion in 1997 to \$328 billion in 2004. This represents an increase of 87 percent in just 8 years.⁵

Figure 1. Total cost of Governmentwide contracts*



*Excluding contracts less than \$25,000.

Along with tremendous growth in the amount of contracting is an increase in the proportion of contracts being used to purchase more complex products and services, and in the proportion of contracts for services. The Government no longer contracts for just office supplies, facility support, and production of ships, planes and other major weapon systems. Now the Government uses contractors to provide complex management consulting (such as technology support and financial system development), and highly complex research and development services (such as for new defense and security systems based on advanced and yet to be developed technologies). Indeed, in some contracts, the Government works in partnership with the contractor to develop cutting edge solutions to rapidly developing problems.

⁵ National Journal Group, *Government Executive Special Annual Issue: Top 200 Federal Contractors*, August 1998 and August 1999; *Government Executive Special Annual Issue: Procurement Review*, August 2000, August 2001, August 2002 and August 2003; *Government Executive: Top 200 Federal Contractors*, August 15, 2004 and August 15, 2005.

Needing a more effective contracting workforce

An effective contracting process requires appropriate rules and procedures and enough highly skilled employees who can effectively implement those rules and procedures. Considerable effort in the last several years has focused on improving and streamlining contracting rules and procedures. This has resulted in more modern, flexible systems including new, innovative methods of contracting to meet the more complex needs of Government. While these new systems provide significant advantages, they also create additional challenges for those who must implement them. The new procedures and systems provide more flexibility and thus require more expertise and personal judgment on the part of the Federal employees using them. The employees who are required to effectively implement this flexibility must be especially well selected, trained, and managed. Otherwise, even with the most effective rules and procedures, the desired contract outcomes will not be realized.

Ensuring that the Government meets the public's interests in achieving successful contract outcomes requires that agencies have enough Federal employees with the right skills and competencies to design and oversee contracts. The Federal employees who work on contracts constitute a critical part of the Government workforce responsible for billions of dollars of Government resources. It is important, therefore, to assess the degree to which these employees are being effectively and efficiently managed to carry out their contracting work.

Two groups of Federal employees bear the primary responsibility for developing and managing contracts. One group consists of the contracting professionals (such as contracting officers, contracting specialists, and purchasing agents) who are involved in the business aspects of contracting. They ensure that the Government selects a contracting approach that is appropriate for a specific purchasing need, that the contracting process ensures sufficient fair and open competition, and that the process operates ethically and according to law and regulation.

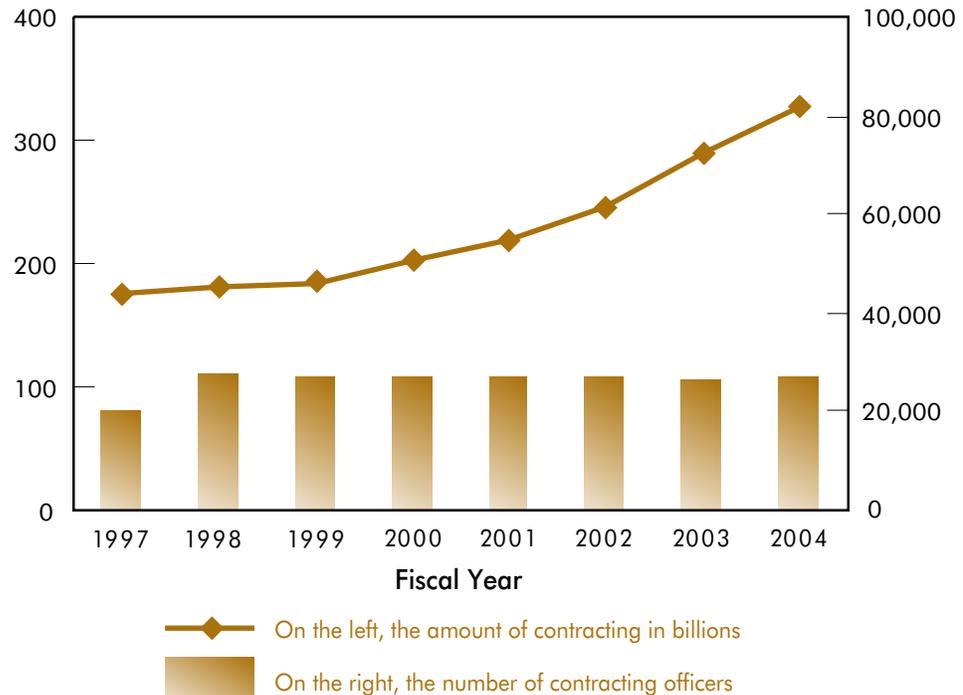
The other group of Federal employees who have a critical role in contracting consists of the program and technical employees who provide the technical expertise to ensure that contracts meet the requirements of the Government. While contracting officers (COs) handle the business aspects of contracting, CORs develop the contract's technical requirements and determine if a contractor meets them. For example, the engineers and scientists who serve as CORs develop and oversee the work of contractors working on major weapons, cleaning up nuclear sites, and applying environmental regulations.

Well formulated contracting rules and procedures and superior COs alone are not sufficient to ensure that contracts meet the Government's technical and programmatic needs. After all, the best managed contract from a business point of view won't be successful if it does not result in products and services that meet the Government's needs. Indeed, the complexity of the contracting process and the variety and complexity of the products and services being purchased mean that it is

unlikely and unreasonable that one person can possess the technical expertise and the contracting expertise to effectively design and oversee successful contracts. CORs and COs work—or should work—hand in hand to develop and manage contracts that meet Federal requirements for quality, timeliness, completeness, and cost.

Most of the work done assessing the employees involved in contracting has been focused on contracting officers and other employees working on the business aspects of contracting.⁶ Unfortunately, as **Figure 2** shows, while contracting has become more costly and more complex, the number of contracting officers (GS-1102) available to work on contracts has remained essentially the same. In response to this situation, various approaches have been proposed to improve the ability of the acquisition workforce to handle this increasing contracting workload. These approaches have focused on the strategic management and skill development primarily of contracting officers.⁷

Figure 2. Contracting costs and number of contracting officers



Surprisingly little attention has been paid to CORs who provide the technical and program expertise for developing the technical aspects of contracts and for overseeing the technical work of the contractor. These employees are critical to ensuring positive contract outcomes, and the technical aspects of their contracting work have become increasingly more complex. In addition, CORs may have added

⁶The Federal Acquisition Institute, *The Federal Acquisition Workforce: Fiscal Years 2003 and 2004*, April 2005; U.S. Merit Systems Protection Board, *Workforce Quality and Federal Procurement: An Assessment*, 1992;

⁷U.S. General Accounting Office, *Acquisition Workforce: Status of Agency Efforts to Address Future Needs*, December 2002; U.S. General Accounting Office, *Acquisition Workforce: Agencies Need to Better Define and Track Training of Their Employees*, July 2002.

pressure to take on more responsibility for managing contracts because there are relatively fewer COs available to work on current contracts. Therefore, the Merit Systems Protection Board wanted to know more about CORs, their role in the contracting process, and how to improve their ability to help ensure positive contract outcomes.

Why we conducted this study

Although CORs perform critical work involving a large amount of public funds, there have been no empirical studies of how CORs are managed to perform their critical role in the contracting process. For this study, we conducted a survey of CORs in order to understand who they are and to get their perspectives on their contracting work.

The overall purpose of the study was to examine the COR workforce (including COTRs) and to recommend how it can be better managed to ensure positive contract outcomes. We were interested in the role of the CORs, who they are, what kinds of contracting tasks they perform, and how they are managed. Ultimately, when CORs can be more effective, contract outcomes are better and the public's interest in ensuring a good return on its annual investment of over \$300 billion in contracts is better protected.

We focus on those management practices identified as being related to better contract outcomes in terms of timeliness, quality, completeness, and cost of contract deliverables. While there are additional ways to assess the results of contracting, for our purposes, the CORs' perspectives and ratings of contract outcomes are both relevant and appropriate. This very experienced group of CORs had compelling and authoritative information about their experiences in contracting and about how they can be better managed. Because CORs reported on both their experiences and their contract outcomes, we can directly determine which management practices have the best chance of improving contract outcomes.

To support our recommendations, we provide background information about CORs and the contracts on which they work. We then address regulatory issues in managing CORs, including formal delegation of COR authority, COR training, and strategic management of the COR workforce. Next, we discuss day-to-day COR management issues such as COR selection, when CORs should begin work on a particular contract, what contracting tasks they perform, the time available to do their contracting work, rating CORs on the performance of their contracting duties, and the impact of the other people CORs work with on contracts.

This report does not address such issues as what should be purchased via contracts or how agencies can improve other aspects of the contracting process, how to choose contractors, or how to streamline the contracting process. These issues are driven by the needs of the Government for specific products and services, and are not always under the control of agencies or COR supervisors. While these issues may affect

how well CORs can do their jobs, they are not aspects of managing CORs in the performance of their contracting work. Our purpose is to focus on actions that can be taken to better manage and support CORs so they can more effectively perform their contracting duties.

Methodology

The primary source of information for this study was a 2003 survey of CORs in 10 agencies that spent 90 percent of the contracting dollars in FY 2000.⁸ Agencies that do such volumes of contracting are likely to have more experience in a variety of contracting situations and more thoroughly tested contracting systems and practices. The CORs in such agencies are likely to have more experience and therefore can provide more useful information about what works and what does not work in terms of how they are managed, than would the study of CORs in agencies that do little contracting.

Our survey covered the following contracting topics:

- ❑ COR demographics and experience
- ❑ Typical contracts CORs work on and their outcomes
- ❑ Regulatory aspects to managing CORs
 - Formal delegation of COR authority
 - Training
- ❑ Specific contract management issues
 - COR selection
 - When CORs should first begin working on a particular contract
 - Pre-award and post-award contracting tasks
 - Time available to do COR work
- ❑ Other aspects to managing CORs
 - Strategic management of the COR workforce
 - Working with others to do contracting work

More detailed information on our sampling and survey methodology is included in Appendix A. We have provided a copy of our survey in Appendix B.

⁸The agencies were selected based on the most recent data available from the Federal Procurement Data System (FPDS). The FPDS contains agency reports of contracting costs and contracting actions (such as contract awards or contract amendments) for contracts over \$25,000. Our sample accounted for 83 percent of contracting actions for FY 2000.

Contracting and the Role of CORs

Contracting—also called procurement or acquisition—is a significant and complex Government activity involving Government employees at all levels and from a number of different occupations. In this section, we begin with a brief overview of contracting with a focus on the role of CORs in providing the technical expertise necessary for successful contracting. Our aim is to provide a context for our findings and recommendations.

Contracting varies in complexity depending on a number of factors including the type of the contract and the agency procurement process, systems, and culture within which contracting is conducted. Achieving positive contract outcomes (in terms of timeliness, quality, completeness, and cost of deliverables) depends on the contracting rules and procedures used, how well Government employees implement them, and ultimately on the actual performance of the contractor. We did not assess the rules and procedures of contracting, nor did we look at the performance of contractors, why the Government uses contracts, what the Government purchases with contracts, nor the contracting approaches taken. Our focus is on CORs and how well they are managed to perform their contracting duties and thus, ensure positive contract outcomes. However, it is important to understand a bit about contracting rules, procedures, and systems to understand the environment in which CORs work.

What is contracting?

Contracting is the primary method Federal Government agencies use to purchase products or services from sources outside the agency. The primary set of regulations governing contracting is the Federal Acquisition Regulation (FAR).⁹ According to the FAR, the “vision for the Federal Acquisition System (FAS) is to deliver on a timely basis the best value product or service to the customer, while maintaining the public’s trust and fulfilling public policy objectives.”¹⁰

⁹The procurement regulations specific to an agency are added to the FAR and the combination of both sets of regulations is usually represented by adding an initial before the FAR. For example, the DFAR consists of the regulations in the FAR, and those added by the Department of Defense.

¹⁰FAR, Section 1.102(a).

Government agencies can contract for, purchase, or acquire products and services from private sector entities, other Federal agencies, state or local government organizations, or other non-profit organizations, although it is perhaps more common to think of contracting as occurring primarily between the Government and the private sector. Our findings apply to Federal employees who work on contracts between Federal agencies and private sector contractors as well as other Government or non-profit sector contractors.

The legal framework for the Federal acquisition system

The framework for the FAS includes the “guiding principles” and the policies and procedures contained in the FAR.¹¹ These “guiding principles” are:

- ❑ Satisfy the customer (agency program or program manager) in terms of cost, quality, and timeliness; for example—
 - Maximize the use of commercial products and services
 - Use contractors who have good past performance and the current ability to perform
 - Promote competition
- ❑ Minimize administrative operating costs;
- ❑ Conduct business with integrity, openness, and fairness
- ❑ Fulfill public policy objectives

The policies and procedures in the FAR include more specific guidance on determining the type of contract, the level of competition, the pricing structure, and how to gather and assess proposals. They also include information about how to alter the terms of a contract; the requirements for accountability, authority, and limitations on the actions of Government employees involved in contracting; and how to resolve disputes between contractors and the Government. Recently, the Services Acquisition Reform Act of 2003 (SARA)¹² formally defined acquisition to include requirements definition, measurement of contractor performance, and technical management direction, in addition to traditional contracting activities.

There are also specific standards of conduct, ethical guidelines, and integrity requirements established in the FAR to ensure that contracting is conducted fairly and openly, with no real (or apparent) conflict of interest, and in the interests of the Government. These ethical requirements cover issues such as the content and timing of information exchanges with contractors, employment offers or acceptances between Government employees and the contractor (or contractor employees with the Government), and bribes or gratuities to Government personnel.

¹¹ FAR, Section 1.102 (b).

¹² Public Law 108-136.

The acquisition team

The “acquisition team” consists of all participants in the acquisition process including Government employees ranging from senior agency leaders to administrative and support employees. In this brief overview we look at the roles of four groups of people on the acquisition team—program managers, COs, CORs, and contractors.

Program managers know generally what is needed by their organization and why, and are responsible for certifying that there is a legitimate Government need for the products or services to be covered by the contract. In addition, program managers authorize the program funds to pay for the item. For example, the director of a research center can determine a need for new testing equipment and provide the funds to pay for that equipment. Program managers are the customers and their needs drive the procurement process.

Procurement professionals, primarily COs, serve as the Government’s “agent” and are responsible for the business aspects of the contract and for ensuring adherence to procurement laws and the regulations contained in the FAR.¹³ In contracting, the “law of agency” refers to one party (the principal) who appoints another party (the agent) to enter into a business or contractual relationship with a third party (the contractor). The Government is the principal, the contracting officer is the agent, and the contractor is the third party.¹⁴ The authorities of the CO as well as the limits to that authority are spelled out for the CO in a certificate of appointment, more commonly referred to as a “warrant.”¹⁵

Practically speaking—no matter who else may be working on a particular contract—it is the responsibility of the COR(s) to ensure that the technical requirements of the contract are met.

The CO usually works in the procurement office rather than the program office and provides the expertise on the business aspects of the contracting process. The FAR provides criteria for the selection of a CO based on the complexity and dollar value of the acquisitions (contracts) to be assigned and the candidate’s experience, training, education, business acumen, judgment, character, and reputation.¹⁶ He or she is responsible for ensuring performance of all necessary contracting actions, compliance with the terms of the contract, and safeguarding the interests of the United States in its contractual relationships.¹⁷ Legally, it is the CO, as the Government’s agent, who is responsible for ensuring the integrity of the contracting process.

¹³ Contracting Officers are typically referred to as “COs” in civilian agencies and often as “KOs” in defense agencies to distinguish them from commanding officers. They are usually in the GS-1102 contracting specialist series, and have a warrant from their department to serve as the Government’s agent in the contracting process.

¹⁴ Management Concepts Inc., *Introduction to Federal Contracting*, Washington, DC, 2001, pg. 4-10.

¹⁵ FAR, Section 1.603-3.

¹⁶ FAR, Section 1.603-2.

¹⁷ FAR, Section 1.602-2.

The CO must retain certain contracting responsibilities and tasks, but can delegate certain other contracting responsibilities and tasks to others. For example, COs may, but rarely do, possess sufficient expertise in the functional area of the contract to manage or oversee the contract's technical aspects. Therefore, it is common for the CO to delegate the technical oversight and/or administrative management aspects of the contracting process to the COR. Delegation of technical responsibilities to the COR is also important in small agencies where one or two COs cannot possess all of the technical expertise required to develop and oversee all of the agency's contracts. In reality, a small agency may have a need to purchase nearly as many different products and services as a large agency.

The CORs usually work in the program office—the functional organization that needs a product or service provided by the contract. CORs provide the technical and program expertise necessary to develop and manage the contract. Procurement policy specifically includes CORs (and COTRs) and other equivalent positions as part of the minimal definition of the acquisition workforce.¹⁸ CORs are usually selected by or with the advice of the program office. In addition, CORs only have authority to work on contracts to the degree they have been formally delegated such authority by the CO. While the FAR provides guidance and criteria for the selection of COs, it provides no such guidance or criteria for the selection of CORs. Therefore, the process for COR selection (and assignment) varies greatly from agency to agency. Agencies may select CORs based on their expertise in a technical or functional area, experience, training, knowledge of contracting rules or procedures, or the complexity or dollar value of the contract. However, agencies are not required to use these or any other criteria as the basis for selecting or assigning CORs.

The contractors who provide the products and services to the Government are also members of the acquisition team.¹⁹ Contractors endeavor to fulfill the contract by providing the deliverables stipulated and to make a profit in doing so. Poorly performing contractors will deliver less than optimal contract outcomes.

The agency role: Flexibility in managing the contracting function

Factors such as how an agency is organized, how much contracting it does, and how complex the items are that are being purchased affect the complexity of the agency's contracting activities. Agencies have considerable flexibility in adjusting their contracting function to best suit their organization and specific contracting needs. For example, small agencies that do little contracting may find it most effective and efficient to centralize the procurement function in one person within the office of administration. This one CO would then conduct procurement activities as requested by program managers throughout the agency. Depending on the level of

¹⁸ Office of Federal Procurement Policy, Policy Letter 05-01, dated April 15, 2005, available at http://www.whitehouse.gov/omb/procurement/policy_letter_05-01.html.

¹⁹ FAR, Section 1.102-3.

technical complexity of the product or service being purchased, a technical person in the affected program area may be assigned to participate in contract development and management.

In contrast, large agencies or those that make many complex and costly purchases may have a multi-person procurement office within their office of administration. Large agencies also may find it more effective and efficient to decentralize the procurement function along major program or bureau designations. Large agencies may also use “integrated project teams” (IPTs) composed of a number of professionals from the procurement, program, technical, finance, supply, and accounting fields who share responsibility for developing and managing a particular contract. The CO usually leads this IPT and there may be one or more CORs on any particular team. No matter the size of the agency, or how the contracting activities are organized, in this study we assume that no matter who else may be working on a particular contract, it is the responsibility of the COR (or CORs) to ensure that its technical requirements are met.

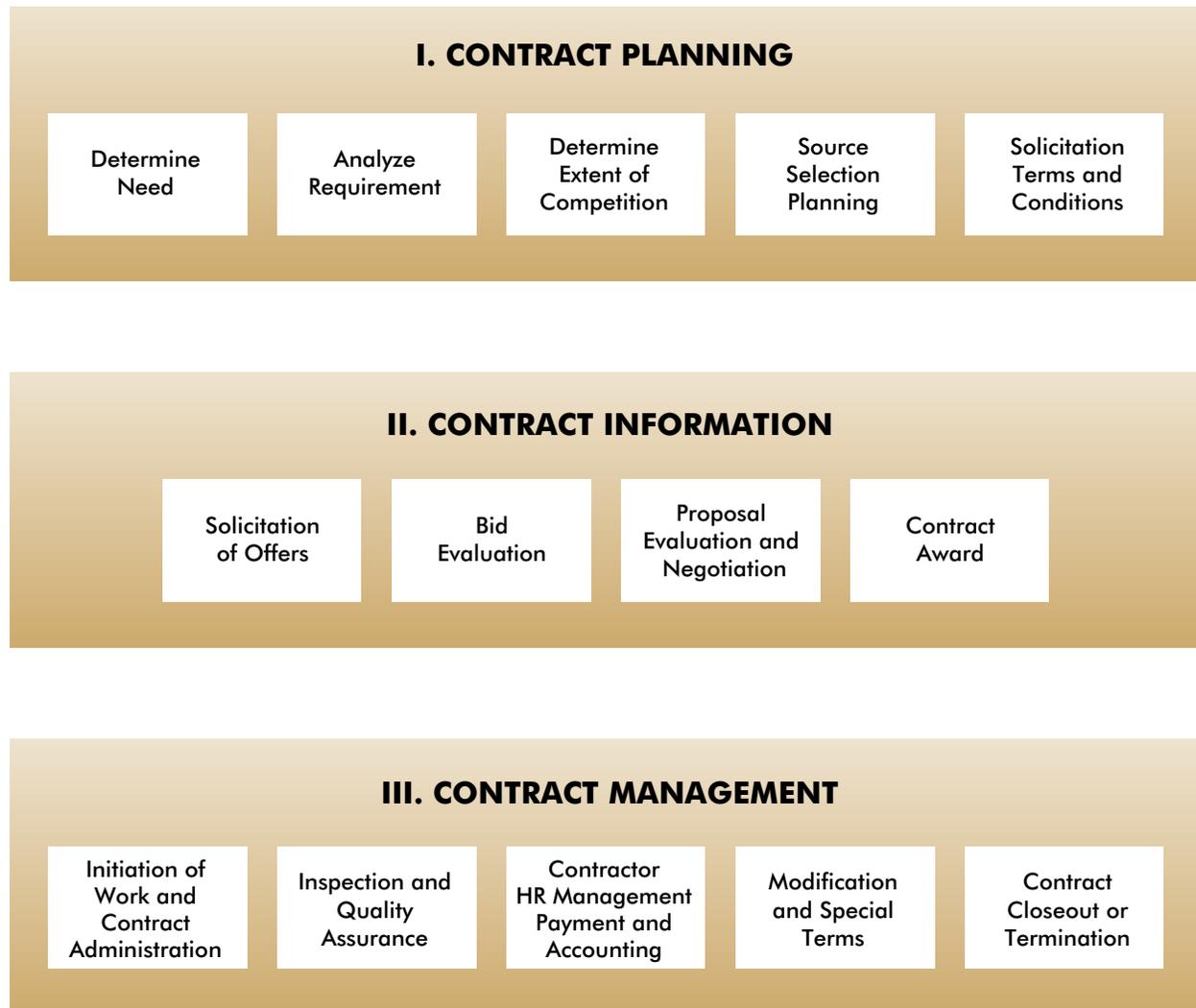
Agencies and their individual employees who are involved in contracting have considerable flexibility to make decisions that have a huge potential impact on a contract’s outcomes. According to the FAR, each agency—or involved agency employee—should assume that any policy, procedure, strategy, or practice that is in the best interest of the Government and not prohibited by law, Executive Order, or regulation that is otherwise consistent with law, is permitted under the FAR.²⁰ That is, rather than assume that an action is forbidden if it is not specifically authorized; agencies and procurement personnel should assume they can take any action that is not specifically prohibited—so long as it does not violate the law. For example, an agency may use a new or unique approach to purchasing a particular product or service as long as law does not prohibit the action. They do not have to refrain from using a new approach just because the approach has not been specifically described or authorized in the FAR. Because of the wide latitude of discretion given by the FAR, the judgments made by procurement employees can make the difference between a successful contract and one that does not meet the requirements of the Government.

The contracting process and the role of CORs

Contracting is usually carried out in three stages—contract planning, contract formation, and contract management. **Figure 3** depicts this process. The contract planning stage begins when a program manager or executive (the contract customer) decides that the Government needs a product and/or a service and ends with determining the terms and conditions of the solicitation (the notice to contractors to apply for a Government contract). The contract formation stage begins with the formal solicitation for offers or bids and ends with a signed contract awarded to the contractor with the best proposal. The contract management stage begins with the

²⁰ FAR, Section 1.102-4 (e).

Figure 3. The Contracting Process



Adapted from: *Contracting Officer's Technical Representative (COTR) Training Blueprint* (formerly called the "Contracting Officer's Representative (COR) Workbook"), Federal Acquisition Institute, Office of Governmentwide Policy, General Services Administration, November 2003, pg. 27-30.

initiation of work on the contract and ends with contract closeout or termination. We review each of these phases with particular emphasis on the role of CORs.

Table 1 delineates some of the common tasks that CORs perform in the contracting process organized according to the stages of contracting. This listing provides a good overview of the technical aspects of contracting and the important role that CORs play in successful contracting.

Table 1. Typical COR Tasks*

CONTRACT PLANNING
<ul style="list-style-type: none"> • Advise on or determine a need for a product or service • Analyze technical requirements of the product or service • Conduct market research to establish technical requirements or identify potential contractors • Provide technical information to assist in determining type of contract and level of competition • Plan the technical aspects of the source selection process • Establish the solicitation’s technical terms and conditions • Help prepare the statement of work (SOW) and other terms and conditions of the solicitation
CONTRACT FORMATION
<ul style="list-style-type: none"> • Serve on panels to evaluate bids and proposals • Establish the contract’s technical terms and conditions
CONTRACT MANAGEMENT
<p>Administration</p> <ul style="list-style-type: none"> • Serve as agency’s technical representative for contract administration • Represent agency in technical meetings, record important facts • Confer with program office and user groups on contract performance • Maintain COR file • Assist contractor in understanding technical requirements
<p>Monitoring the technical work of the contractor, quality assurance and inspection of deliverables</p> <ul style="list-style-type: none"> • Determine and list the deliverables required from the contractor, with due dates • Monitor the contractor’s compliance with submitting deliverables • Review and approve or reject technical deliverables • Give technical direction to contractor • Ensure all work is in accordance with the contract requirements • Review and monitor progress reports and work plans • Ensure the contractor is complying with its quality control systems • Advise the CO of work that is accepted or rejected • Ensure the contractor properly corrects all defects and omissions
<p>Changes and modifications</p> <ul style="list-style-type: none"> • Advise the CO of the need to issue change orders, develop estimates for equitable adjustments, assist in evaluating contractor claims • Perform a technical review of contractor proposed changes
<p>Contractor human resources management and financial management issues</p> <ul style="list-style-type: none"> • Ensure contractor exhibits required materials for EEO, contract laws, and job safety • Report violations of labor standards to the CO • Monitor time worked and contractor record-keeping procedures • Ensure contractor enforces all health and safety requirements • Ensure contractor assigns employees with the necessary capabilities, qualifications, and experience • Review and quickly process contractor invoices • Determine if progress or advance payment requests should be processed
<p>Contract closeout or termination</p> <ul style="list-style-type: none"> • Provide technical information for contract termination decisions • Forward COR file to CO when COR duties end

* Partially adapted from Management Concepts Incorporated, Contracting Officer’s Representative Course (No. 1070), 2001, pg. 1-5 and 1-23.

Contract planning

COR involvement in contract planning is important to ensure that the contract, from the start, accurately and completely delineates the Government's technical needs and how the deliverables will be assessed to determine if they meet those needs. In the contract planning stage, CORs work with program managers to determine whether there is a need for the Government to contract for a particular product or service. Then, CORs work with COs to conduct a more detailed analysis of the Government's needs, including defining the technical requirements or performance standards the contract must meet. CORs also help establish the initial timeframes for the contract because they know when the deliverable must be provided and/or how long a deliverable could take to be produced. COR input regarding the contract timeframes is especially important if the deliverable is a subcomponent of a larger agency initiative of which the COR is thoroughly familiar.

CORs also provide technical expertise to help the CO determine the appropriate type of contract to allow the Government to obtain what it needs at a reasonable cost and at an acceptable level of risk. The type of contract chosen determines the appropriate level of competition and negotiation and the pricing structure of the contract. Contract types can range from the simple purchase of commercial products (e.g., office supplies) to long-term research and development services (e.g., advanced technical system design and testing) to capital construction (e.g., building courthouses, prisons or roads). There are certain types of contracts, such as those for major research and development services that are particularly difficult to develop and manage. For these kinds of contracts, the Government may not know what the final product or service should look like or how it should perform because of rapidly changing needs or technology. Instead, the product or service is developed in partnership with the contractor, which makes the involvement of highly skilled Government employees even more important to ensuring positive outcomes.

Performance-based contracts

In this type of contract, the Government specifies the performance standards that the contract deliverables have to meet—such as what the deliverable must do and how well they have to do it—and sets a fixed price for the contract. The process or approach used to achieve the performance standards is the responsibility of the contractor. If the costs are more than anticipated, the contractor absorbs the additional cost. In this way, the financial risk shifts away from the Government and to the contractor. However, even in performance-based contracts, determining the required performance standards of the deliverables (developing performance metrics) requires the technical expertise provided by CORs.

Commercial, fixed-price contracts, such as those used to purchase office supplies or facilities maintenance services, typically have price ranges associated with specific levels of quality and quantity that have been established over time to the point of becoming recognized standards. Commercial, fixed-price contracts do not typically require complex negotiation to obtain a fair price for the Government and several contractors are usually able to provide competitive prices. The risk to the Government is more limited as it is easier to show when a commercial item does or does not meet established standards. The involvement of CORs is useful in these types of contracts to ensure that the appropriate quality of the commercial product is obtained at an appropriate cost.

Contracts designed to purchase complex professional services, major integrated hardware systems, research and development services, or construction services are particularly complex. These types of contracts typically have variable, “cost-plus” pricing structures where the amount paid to the contractor is the cost of goods (raw materials or supplies) plus the cost of the level of effort the contractor spends to accomplish the work. Often the level of effort is not known at the beginning of the contract. In addition, in complex, cutting-edge research and development contracts, the Government may not always know what the optimal deliverable of the contract should look like. In either case, the overall costs cannot be well estimated, and the risk of contract failure is borne by the Government in those instances when more money must be paid to compensate contractors required to put in more effort than was initially estimated. Given the level of uncertainty in estimating final costs and the risks to the Government, the role of the COR is essential in these types of contracts. Under these circumstances, the COR plans the technical aspects of the contract, anticipates the risk and potential challenges the contractor and the Government may face and how those risks may be managed over time, and helps establish appropriate intervals and milestones for the contract.

During planning, CORs also work with the CO to develop the source selection process including the technical criteria for evaluating contractors’ proposals. CORs may use their expertise and familiarity with those contractors to conduct market research to gather information about technical criteria, or to obtain a list of potential sources (contractors). The CO uses this information to promote competition and ensure the agency gets a sufficient number of high quality proposals from which to select a final contractor.

Finally, CORs work with the CO to prepare the terms and conditions of the solicitation—or the formal request for contractors to submit proposals to accomplish specified work for the Government. The Government’s technical requirements are laid out in a statement of work (SOW). The SOW, along with the Government’s requirements for timeliness and anticipated cost and other information necessary for the contractors to understand the Government’s requirements, make up the solicitation’s terms and conditions. CORs provide the technical expertise necessary to convey the Government’s requirements in understandable and precise terms in the solicitation. For our purposes, what is most important is that when the need of the Government is more complex and/or the risk to the Government is greater, the contribution of CORs is critical to ensuring the Government has a well planned contract.

Contract formation

The contract formation phase begins with the formal solicitation for proposals and ends with the awarding of the contract.²¹ The solicitation is published in a “request for proposal” or “request for bid” to inform potential contractors (those who wish to provide the product or service to the Government) of the Government’s needs for goods and/or services. The solicitation is the basis on which contractors “propose” to the Government how and what they will provide, when they will provide it, and at what cost. If significant aspects of the Government’s requirements were overlooked or not sufficiently specified in the contract planning phase, then the contract formation phase will probably not result in a contract that can accomplish the work intended.

The technical assessment of the contract proposals is the primary activity of CORs during this phase. Once proposals or bids are received, they are evaluated against a pre-established set of criteria to determine which contractor offers the best value for the Government. CORs are helpful in interpreting or assessing the proposals to determine which ones provide complete information from which to judge the capability of the contractor. CORs should also be involved in assessing contractor proposals to ensure that the technical criteria for bid evaluation established during contract planning are accurately and completely applied and that any technical issues are resolved so that each contractor can compete fully and fairly for the Government’s business. CORs may also serve on panels established to provide formal review and rating of proposals.

Often, CORs are involved with the CO in negotiations between the Government and the contractor(s) to ensure that the final agreement will meet the Government’s technical requirements and be satisfactory to all parties. CORs may be involved in other contract activities during contract formation including investigating contractor past performance and providing input for estimating contract costs. The contract formation stage results in a signed contract between the Government and a specified contractor or contractors. This contract should clearly and completely lay out the Government’s requirements, the roles of both the contractor and the Government, and the means to effectively assess that the Government’s requirements (quality, timeliness, completeness, and cost) are met.

Contract management

The next stage of the contract is the contract management phase. This phase begins with the initiation of work by the contractor and ends with the closeout or termination of the contract. The goal of this phase is to ensure the contractor meets the Government’s technical requirements for quality and completeness, at the cost,

²¹ The Government may award sole source contracts without solicitation under specific circumstances. However, even in these cases, the involvement of CORs is important to ensure the technical aspects of the contract are laid out accurately and to assess the likelihood that the contractor can provide the products or services required.

and within the timeframes established by the contract. Assuming a well developed contract, the success of the contract depends on the contractor's performance in delivering services and products and the Government's performance in monitoring the contract and assessing that these technical requirements are met. CORs generally perform this technical oversight function because they are usually the only people with the expertise and position within the agency to assess the contractor's performance. Typical activities in the contract management phase include initiation of work and administration of the contract, monitoring the technical work of the contractor (including quality assurance and inspection of deliverables), contractor HR management and payment and accounting of contract funds, modification of the contract, satisfying any special terms of the contract, and closeout or termination of the contract.

Contract management is the most critical phase from the program office's perspective because it is during this phase that the contract will either succeed or fail to satisfy the Government's requirements. If the contract succeeds, it means that the contractor has produced the products and services required, and that the Government's representative—usually the COR—accurately and effectively judged that the products and services satisfy the Government's requirements in terms of quality, timelines, completeness, and cost. In the end, the Government has gotten what it needs, and the contractor is paid a fair price for those deliverables. In this case, the contractor did what was expected and the Government's representatives did their job in overseeing and certifying the contractor's work. Contract management is often extremely challenging and problems in managing contracts can result in the failure of the contract.

CORs are intimately involved in all parts of contract management, but their key responsibility is to ensure that all the technical issues of the contract are managed effectively. CORs must work hand in hand with the CO to resolve any problems that arise. Technical issues in contract management such as monitoring contractor performance, judging the quality of deliverables, and knowing when contracts should be modified are complex issues. Inspection standards for some products and deliverables are well established, but standards for more complex deliverables may have to be created for each contract. More complex and costly contracts, or contracts that require more judgment on the part of the COR, make the COR's job more difficult. It is under these circumstances that it is especially critical to effectively select, train, and manage CORs, so they can do their part to ensure positive contract outcomes.

It is always hoped that contract difficulties will be minor and easily resolved. However, when the contract deliverables significantly fail to meet the technical requirements, are not timely, are not complete, or are more costly than originally agreed upon, then the Government or the contractor must take action to correct the situation. Regardless of the cause of the problem, or who takes the action, the problem is likely to increase costs to the Government and to reduce the chances for a successful outcome. COR involvement in these situations is critical to ensure successful resolution of contract problems. When the structure of the contract

is such that the risk of non-performance is borne more by the Government, the potential costs to the taxpayer for contract problems and/or contract failure are even greater. In these situations, it is imperative that the CORs involved in the technical aspects of the contract have the expertise, authority, and managerial support to effectively perform their contracting duties on behalf of the Government.

The final activities in contract management involve closing out or terminating the contract—each of which requires different but important work for the CORs. If the contractor was successful in meeting the Government’s requirements, the contract is closed out. Close-out activities include certifying completion of all deliverables, reviewing and storing records used during the contract, and completing the final payments to the contractor. A contract can also be terminated before its completion. If there were significant problems during the execution of the contract resulting in the contractor’s failure to perform, the contract can be terminated for cause. Alternately, if the Government’s requirements have changed significantly, the contract can be terminated based on those changing needs. Termination of contracts may require more work for the COR, such as providing evidence of technical insufficiency and furnishing other administrative documentation that will withstand contract review, as well as audit and appeals procedures. The purpose is to end the contract and minimize the cost to the Government. Often, a failed contract will require additional effort and money to hire a new contractor to complete or redo the work.

Conclusions

This brief review of contracting has provided the context within which CORs perform their critical duties to protect the public’s interest in ensuring that contract deliverables meet the needs of the Government. The more technical aspects of the contracting process are of particular interest in this study because they are the ones where the CORs’ involvement is most critical. It is important to have CORs involved during the contract planning and formation phases to help ensure that the “right” thing will be purchased and that the proposals will be evaluated according to the appropriate technical criteria. It is equally important to have CORs involved during the contract management phase to ensure that the contract deliverables meet the needs of the Government.

The next section of the report describes CORs and the contracts they work on, followed by a section describing our findings and conclusions about how CORs are managed. The final section contains our recommendations for improving how CORs are managed so they can help ensure positive contract outcomes.

CORs and the Contracts on Which They Work

To provide the context for our findings and recommendations, it is important to understand more about the CORs who responded to our survey and about the typical contracts on which they worked.

CORs are very experienced professional/technical employees

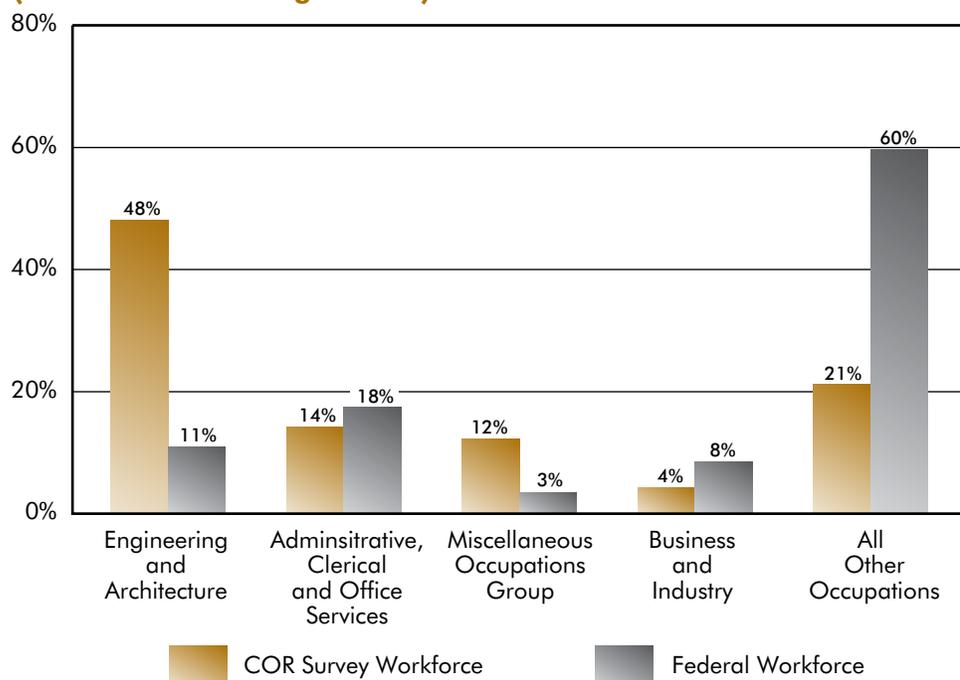
The majority of the 1,426 CORs who responded to our survey were well-educated, non-supervisory, highly graded, and well paid Federal civilian employees working in professional or technical occupations. In our survey, 35 percent had a master's degree, Ph.D., or other advanced degree and an additional 42 percent of CORs had a bachelor's degree. Over 80 percent of CORs worked in professional or technical occupations, with 53 percent of them employed in engineering positions. Over half (57 percent) of our respondents were above the GS-12 (or equivalent) grade level, and another 41 percent were between GS-9 and GS-12.

Figure 4 shows the most numerous occupations for our respondents in grades GS-9 through GS-15 compared to the overall Federal workforce in these grades. The differences in the occupations of the general Federal workforce compared to those of our COR respondents were not surprising given the highly technical nature of most Government contracts. Most (75 percent) CORs did not supervise other employees, though they did oversee or “supervise” the technical aspects of contracts. Not surprisingly, given their education and grade levels, a majority of our CORs (84 percent) earned \$57,000 or more per year in FY 2003. In most other ways, the CORs in our study were demographically indistinguishable from other high-level, non-COR, Federal employees.

Almost half (49 percent) of our respondents had over 20 years of experience as Federal civilian employees, and 33 percent could retire in 3 years or less. An additional 37 percent had 10 to 20 years of Federal civilian experience. Approximately 30 percent of our respondents had worked for their current agency for more than 20 years, and another 41 percent for 10 to 20 years.

Our respondents had considerable experience working with contracts in general and as CORs specifically. Almost 80 percent of our CORs had 6 or more years of experience working on contracts generally. More than 38 percent of our respondents had more than 10 years of experience as a COR. Another 23 percent of CORs had 6 to 10 years of COR experience. Thus, our survey results reflect the experiences of a very seasoned group of employees whose perceptions on contracting can provide valuable insights into how their role in the process can be improved.

Figure 4. Occupational group of the CORs versus the Federal workforce (Grades GS-09 through GS-15)*



* Engineering and Architecture are those in series GS-800, Administrative and Clerical are those in GS-300, Miscellaneous occupations are those in GS-000 thru GS-099, Business and Industry are those in GS-1100, and All Other represents those in all other GS occupations.

CORs work in a complex contracting environment

It is important to understand the types of contracts our CORs typically worked on during the last 2 years. We define the type of the contract by the products and services being purchased, the pricing arrangement, the contract duration, and contract cost over all years of the contract.

Products and services

When asked what types of products or services their typical contracts were designed to purchase, CORs reported that a typical contract included the purchase of anything from commercial office supplies to administrative, professional, and technical services, to major weapon or other integrated systems, or capital construction. Most CORs reported that they typically worked on contracts involving the purchase of more than one type of product and of both products and services.

Unfortunately, the number of respondents who reported working on contracts that involved a single product or service was too small for us to assess whether the items purchased made any difference in the ability of CORs to perform their duties effectively or to achieve positive contract outcomes.

Pricing arrangement

We also asked CORs to tell us about the pricing arrangements of the typical contracts on which they worked. The pricing arrangement is important because it partly determines how difficult the contract is to oversee. In addition, the pricing arrangement, as explained earlier, determines the relative risk placed on the Government or on the contractor should the contract fail. Fixed-price contracts are usually those that purchase commercial off-the-shelf products and services. In this type of contract, the contractor bears most of the risk, and the oversight work is usually more straightforward. Fixed-price products and services usually have well-established, industry-wide, easily measured standards that require little or no judgment on the part of the COR in terms of meeting Government requirements. Other, more complex types of pricing arrangements—such as cost plus effort, or time and materials pricing, are not based on straightforward fixed prices. Thus, they are more difficult to oversee and pose a greater risk to the Government. More complex pricing arrangements place more demands on CORs, making it even more important for agencies to effectively manage CORs.

In our survey, CORs could select one or more different pricing arrangements for the typical contracts they worked on in the last 2 years. These options included a variety of different pricing arrangements from fixed-price to cost reimbursable, to indefinite delivery/indefinite quantity (IDIQ), to performance based, or any combination of arrangements. Over 80 percent of CORs reported that the typical contracts they had worked on during the last 2 years used more than one pricing arrangement. However, 18 percent of our CORs reported having been involved exclusively in fixed-price contracts. Clearly, the pricing arrangements with which CORs typically work are quite complex.

Overall contract duration

Almost half of our respondents reported that the typical contracts they had worked on were of 4 or more years in duration including all option years. Because our total cost data included all planned costs for all contract years, total contract costs were positively related to contract duration. We also found that simpler, fixed-price contracts were generally of shorter duration than contracts with other types of pricing structures.

Overall contract cost

The overall cost of the typical contract our CORs had worked on (including all planned or optional contract years) varied greatly. Over half (52 percent) of CORs had worked on contracts valued below \$1 million, 24 percent worked on contracts worth \$1 million to \$5 million, and another 24 percent worked on contracts

valued over \$5 million. Total contract costs varied with pricing structure. About 62 percent of fixed-price only contracts were below \$1 million, and more complex pricing structures were more common for contracts totaling over \$1 million. More costly contracts are usually more complex, again making COR management more important.

Recent flexibilities in contracting provide options for structuring contracts to make them easier to oversee. However, there will always be products and services purchased through contracts that require the technical expertise of a COR to monitor progress and assess that the needs of the Government are satisfied. In addition, when Government contracts are for services that cannot be fully specified in advance—such as research and development services for new defense or homeland security capabilities—COR involvement from the outset is critical to contract success. In these cases, the degree to which CORs are managed to perform these duties effectively can make the difference between contract success and failure.

Contract outcomes: The bottom line

The primary aim of this study was to identify ways in which CORs can be managed more effectively to achieve better contract results. In considering results, we focused on COR reports on the quality, timeliness, completeness, and cost of the contract deliverables from the contracts they had worked on during the last 2 years. For our purposes, COR ratings of contract outcomes are both relevant and appropriate, particularly considering that our CORs have significant expertise and experience from which to judge the outcomes of the contracts on which they work. In addition, in our study we asked CORs to rate the outcomes of their contracts as well as their contracting experiences, thus enabling us to determine which management activities were most associated with positive outcomes. Management strategies that are related to improved contract outcomes are more likely to have the desired result of ensuring that the public's interest in successful contract outcomes is met. We have no reason to believe that CORs on the whole would rate the outcomes as more negative or more positive than they truly are.

47 percent of our CORs reported that their contracts did not simultaneously achieve *all* of their intended outcomes in terms of timeliness, quality, completeness, and cost.

While many CORs reported that their contracts met all of the performance goals, a significant proportion of CORs reported that their contracts failed to achieve at least one of the four desired outcomes in terms of quality, timeliness, completeness, and cost. For each of these four categories, individually, approximately 75 percent of the contract deliverables met the goal. However, while these ratings of the individual outcomes are informative, the objective of a contract is to meet *all* of the desired contract outcomes, simultaneously. In our data, about 52 percent of CORs rated the deliverables of their contracts as meeting all of the outcomes at the same time. This means that the remaining 47 percent of CORs experienced less than the intended outcome in at least one of the outcome categories.²² Not only does this mean that many contracts did not achieve the intended outcomes, it may also mean the agencies' ability to effectively accomplish their missions was diminished.

²² Does not add to 100 percent because of rounding.

These individual outcome ratings were also correlated with each other. For example, when CORs rated contract deliverables as timely, they also tended to rate them as high-quality, complete when submitted, and at a fair cost. These interrelationships indicate that managing CORs well can affect more than just the quality of contract deliverables. When CORs are well-prepared and managed well, and thus can better perform their contracting-related work, all outcomes may be improved because they are related to each other. The reverse is also true. When CORs are not able to perform their contracting work effectively, then all contract outcomes are likely to be affected in a negative way.

Contract outcomes may also be affected by the types of products or services being purchased, the pricing arrangement of the contract, and perhaps the duration and the overall cost of the contract. As discussed earlier, more complex contracts are likely to have more complex expectations that are harder to meet. We will describe some of the relationships between type of contract and contract outcomes to help provide the context for the COR management issues discussed in the next section.

In our data, we were able to examine the outcomes reported by those who typically worked only on fixed-price contracts versus those who worked on contracts with other pricing structures. Because fixed-price contracts are usually more straightforward to manage, we anticipated that CORs would report better contract outcomes for contracts with this type of pricing arrangement than for contracts with other, more complex pricing arrangements. However, our results indicated that pricing structure (fixed-price versus all other) was not related to the timeliness, quality, completeness, or fair and reasonable cost of contracts. According to our data, approximately the same proportion of CORs who worked on contracts with the simplest type of pricing arrangement reported less than optimal outcomes as did those who worked on contracts with more complex pricing arrangements. This indicates that managing CORs who work on these more simple types of contracts can be just as important as managing CORs who work on contracts with a more complex pricing structure.

We also looked at the relationship between overall contract cost and contract outcomes. It is certainly true that less than optimal outcomes for even one very expensive contract (high overall cost) can significantly increase the costs to the Government to achieve the necessary results.²³ Some may assume also that there is less risk of failure to achieve positive contract outcomes in contracts of less overall cost. In our data, COR ratings of the timeliness, completeness, and fair cost of deliverables were not related to their ratings of the overall cost of the contract. CORs who reported working on contracts with less overall cost were just as likely to report less than optimal outcomes in these areas as were those who worked on contracts with high overall cost. However, for contract quality, a slightly higher proportion of CORs who worked on contracts with higher overall cost rated quality as high than did those who worked on contracts with less overall cost. Agencies may be more

²³ Depending on pricing structure, additional cost could be in dollars or in delays in completing the work, both of which can jeopardize mission accomplishment.

inclined to invest more in managing contracts that are more expensive. However, our data show that agencies cannot take less expensive contracts lightly and assume they will more easily achieve the desired outcomes. It is important for agencies to develop good contracts and manage them well, no matter what the overall cost of the contract.

Interestingly, CORs who reported working on contracts of longer duration also reported more positive contract outcomes in terms of timeliness, quality, and completeness of the deliverables. It makes sense that when given more time, contractors can better achieve the required results. However, contracts of shorter duration will often be necessary. For our purposes, it is interesting to note that contracts of longer duration have more opportunity for COR involvement, making the selection and management of those CORs a more important factor in ensuring positive outcomes.

These findings make clear that efforts to improve contract outcomes by changing the type of contract—for example, shifting to less complex pricing arrangements—will not be likely to yield much improvement in contract outcomes. Even if simplifying the type of contract would affect contract outcomes, there are practical limits to what can be changed about the type of contract. What is being purchased, how much it costs, the pricing arrangement, and the overall duration of the contract are issues driven primarily by the agency's mission needs. Improving contract outcomes involves managing the contract better, including managing the people who work on contracts more effectively.

Conclusions

The CORs in our study were highly educated professional and technical employees. Their experience in contracting work makes them capable of providing authoritative and compelling information about contracting and about how their role in contracting can be improved.

CORs work in a very complex contracting environment. Almost all of our COR respondents worked on contracts designed to purchase more than one product or service. Over 80 percent of our CORs reported working on contracts that contained more than one kind of pricing arrangement. In addition, many CORs reported working on contracts that were usually 2 to 4 years in duration and valued at over \$1 million in total cost. A more complex contracting environment puts more demands on CORs, and thus on agencies to better manage CORs, so they can carry out their contracting duties effectively.

This is no trivial issue. Almost half of CORs reported that the contracts they had worked on did not simultaneously achieve all four intended outcomes. Our data indicate that contract outcomes were only partially related to the type of contract. Because the majority of our CORs worked on contracts involving multiple

products and services, we were not able to assess how products and services related to contract outcomes. COR reports of contract outcomes were not related to the pricing arrangement of the contract. Contracts with higher overall cost were related to higher quality, but not to more complete or more timely outcomes. Contracts of longer duration were related to more timely, more complete and higher quality outcomes. These findings suggest that agencies cannot rely on efforts to simplify the type of contract, such as shifting to fixed-price contracts, to improve contract outcomes.

If shifting to more straightforward contracts will not ensure positive contract outcomes, we must look to the people involved and how they are managed in their contracting work to identify the practices that can improve outcomes. Contracting, like any other activity, will only work when the right people with the right skills are involved in applying the system. We focus in this study on CORs, who are responsible for technical aspects of contracting. Agencies need to be sure they select the right CORs, ensure that their CORs have the right skills, and then manage the CORs well so that they can effectively perform their contracting duties. When CORs are managed well they are able to perform their contracting work more effectively, thus improving contract outcomes.

The next section deals with issues of COR management and how they relate to achieving better contract outcomes. The issues include the regulatory requirements for managing CORs (formal delegation of COR authority, COR training, and strategic management of CORs) and the day-to-day management of CORs (COR selection, when CORs begin work on a particular contract, what contracting tasks they perform, the time available for their contracting work, whether they are rated on their contracting work, and the impact of other Federal employees with whom CORs work in doing their contracting work).

How CORs Are Managed

Every day, agency supervisors and managers make decisions about CORs that affect the ability of CORs to do their work in developing and overseeing successful contracts. Agency procurement managers and human resources managers also affect these decisions through the agency-wide policies they establish. The quality of all of these management decisions at all levels affects the ability of CORs to do their contracting work, and in turn, affects the outcomes of the contract. This section of the report discusses how the regulatory requirements for managing CORs and the day-to-day management of CORs affect contract outcomes.

Fulfilling the regulatory requirements for managing CORs

There are three important regulatory requirements for managing CORs that affect the ability of CORs to do their job effectively. First, according to the FAR, the contracting officer must formally delegate contracting authority on a contract to his or her representative(s) including to CORs.²⁴ Second, since CORs are members of the acquisition workforce, agencies are required to train them to conduct their contracting duties.²⁵ Third, agencies are required to strategically manage their COR workforce to ensure they have enough CORs with the right skills to manage their contracts now and in the future.²⁶ We discuss these requirements and their relationship to contract outcomes in the following section.

Only about 50 percent of our CORs were **always** formally delegated the authority to do their contracting work, and almost 25 percent of our CORs were **never** formally delegated the authority to do their contracting work.

Formal delegation of authority

CORs are required to have a formal delegation of authority from the contracting officer before they can perform any contracting duties. This formal delegation—usually in the form of a letter or memorandum—assigns a COR to a specific contract, states what the COR can and must do, and what the COR cannot do in relation to the contract. The delegation letter helps protect the agency and the COR from adverse effects of a COR acting beyond the scope of his or her authority, or acting without authority.

²⁴ FAR, Section 42.11.

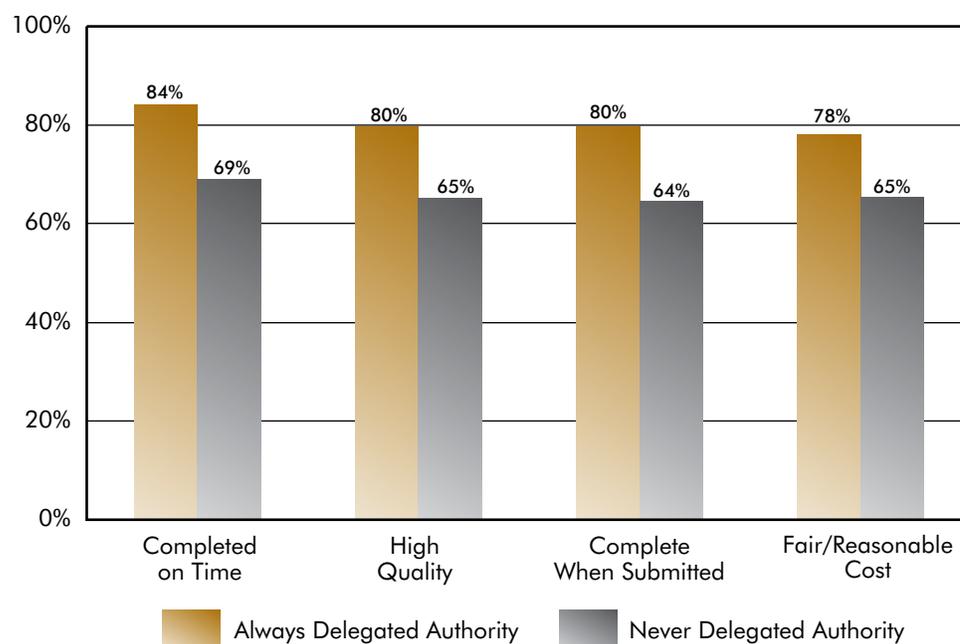
²⁵ The Office of Federal Procurement Policy Act (41 U.S.C. §433), as amended by the Federal Acquisition Reform Act of 1996, also called the Clinger-Cohen Act of 1996 (40 U.S.C. §1401(3)) and the Service Acquisition Reform Act (SARA) (P.L. 108-136). OFPP Policy Letter 05-01 implements SARA by designating CORs as members of the acquisition workforce and by encouraging agencies to require that CORs achieve 40 continuous learning points every 2 years. The Defense Acquisition Workforce Improvement Act (DAWIA) (10 U.S.C. §§1741-46) applies to CORs in the Department of Defense.

²⁶ Office of Federal Procurement Policy, Policy Letter 05-01, dated April 15, 2005, available at http://www.whitehouse.gov/omb/procurement/policy_letter_05-01.html.

Despite the necessity and importance of formal delegation, only one-half of our CORs reported that they were *always* given formal delegations of authority. Nearly one quarter of our respondents replied that their COR responsibilities were *never* formally delegated to them in writing. The degree to which agencies are failing to formally delegate authority to CORs means that CORs may not be clear on what they are to do and not do on the contract.

Formal delegation and contract outcomes. Formal delegation is positively related to better contract outcomes. **Figure 5** shows reports of the timeliness, quality, completeness, and cost of contract deliverables for CORs who are always—or never—formally delegated the authority to perform contracting work. CORs who were always formally delegated their authority were markedly more inclined to report that the contract products or services were completed on time, of high quality, complete when submitted, and carried out at a reasonable cost. In our data, formal delegation was clearly related to the Government’s ability to get what it required from contracts.

Figure 5. Percent of CORs with and without formal delegation who report positive contracting outcomes



A reasonable question is to what degree CORs who work on more complex contracts are more frequently delegated their authority as CORs. Our data show that CORs who worked only on fixed-price—conceivably less complex—contracts were no more or less likely to be formally delegated their authority than were those who worked on contracts with more complex pricing arrangements. However, CORs who reported working on longer and more costly—conceivably more complex—contracts reported that they were more frequently provided formal delegation of their contracting authority.

Earlier findings indicated that contracts with longer overall duration were related to more timely, more complete, and higher quality outcomes and contracts with higher overall cost were related to higher quality outcomes. Perhaps this is because CORs are more frequently delegated their authority in more costly and longer-term contracts, and thus have clearer authority to positively affect outcomes. It is not possible to determine with certainty the causal interactions between contract type, delegation of authority, and contract outcomes. However, it appears from our data that formal delegation of authority has a more consistent relationship with positive contract outcomes than do the pricing structure, overall cost, or overall duration of the contract.

Formal delegation and other aspects of managing CORs. It is interesting to note here that CORs who are always formally delegated the authority to perform contract work are also more likely to be appointed as CORs early in the contracting process, perform a variety of pre- and post-award contract tasks more frequently, and report more contract training. Formal delegation may actually work to improve contract outcomes through increasing these day-to-day activities. Alternatively, formal delegation could simply be one of many contract management practices in agencies with effective and accountable contract management cultures. Regardless of the mechanism through which delegation relates to outcomes—on its own, or as a surrogate marker for other aspects of COR management—it is clear that formal delegation is consistently related to more positive contract outcomes. Therefore, it is important that agencies view formal delegation of authority as more than a pro-forma requirement. Formal delegation of authority is required, and is one of the more definitive and straightforward steps an agency can take to promote the effectiveness and efficiency of the COR workforce.

COR Training

The Federal Acquisition Institute determines the training requirements for CORs in Federal civilian agencies.²⁷ The list of training topics and competencies is quite specific and includes contracting issues as well as general professional and business management skills. We also reviewed the topics covered in a Federal COR training course offered by a private training company.²⁸ We combined and simplified these lists of training topics for our survey purposes.²⁹ We then asked the CORs to tell us about the amount of training they received and how much they needed in a variety of contracting topics, as well as their technical area of expertise and other general procurement-related competencies. We wanted to know what areas of training had the most effect on contract outcomes. We also wanted to know what CORs perceived to be their training needs, as well as their perceptions of what types or methods of training are the most useful.

²⁷ The Federal Acquisition Institute, *Contracting Officer's Technical Representative (COTR): Training Blueprint*, Washington, DC, 2003. The Defense Acquisition University establishes similar requirements for Department of Defense CORs.

²⁸ Management Concepts, Inc., *Workbook for Contracting Officer Representative Course*, Washington, DC, 2001.

²⁹ Appendix B contains the survey from our study.

Training and contract outcomes. Higher levels of COR training in contracting topics, the COR’s technical or functional area, and general competencies were related to better contract outcomes. The general relationships between training in contracting topics and contract outcomes (quality, completeness, cost, and timeliness) are portrayed in **Table 2**, with stronger, more significant positive relationships denoted by more check marks. The strongest relationships were for training in contracting ethics, monitoring contractor performance, and processing contracting actions. Relatively weaker relationships were found for training in contracting law and regulations and, surprisingly, for training in developing requirements including preparing the SOW—an important task for CORs. Interestingly, training in developing requirements was related to better outcomes only in terms of contract cost.

Table 2.
Relationships between training taken in contracting topics and improved contract outcomes

Contracting training topics	Quality	Completeness	Cost	Timeliness
Contract law and regulations, including rules of competition and method and type of contracting	✓			
Government “agency” including the limitations and requirements of representing the Government, “implied agency,” and communications with contractors	✓	✓	✓	
Ethics of contracting, including conflicts of interest and security of information	✓	✓	✓	
Development of requirements, including what work is to be contracted, specifying requirements, conducting market research, and preparing requirements documents and statements of work (SOWs)			✓	
Requesting/assessing bids and proposals, including preparing solicitations, developing contract incentives, objectives and criteria for evaluating proposals, and assessing contractor past performance	✓		✓	
Price and cost determination, including establishing the Government’s initial cost estimate, and determining prices and fees	✓		✓	
Monitoring contractor performance, including providing technical guidance, assessing quality and timeliness, and making scope determination	✓	✓	✓	✓
Processing contracting actions, including task orders, invoices, change actions, modifications, and ratification	✓	✓	✓	
Documentation, including tracking orders, deliverables, timesheets, and other record keeping			✓	
Contract close-out, terminations, and appeals and protests	✓	✓	✓	

As **Table 2** indicates, training in five of the contracting topic areas affected three or four outcomes, while training in the other topic areas affected only one or two of the outcomes. A look across the rows shows that quality, completeness, and cost were all affected by training in Government “agency,” contracting ethics, monitoring contractor performance, processing contract actions, and contract close-out and appeals. Likewise, only contract quality and cost were improved by increased training in assessing bids and proposals and making contract price and cost determinations. Contract cost was the only outcome improved by increased training in developing requirements, writing SOWs, and contract documentation. Finally, increased training in contracting laws and regulations was related only to increases in contract quality. Looking down the columns of **Table 2**, we see that increases in contract training had the most effect on improvements in contract cost, followed by contract quality and contract completeness. Finally, more timely outcomes were related only to training in monitoring contractor performance. However, because monitoring contractor performance is such an important COR function, it was reassuring to find that training in this topic provided improved contract outcomes in all areas.

Table 3 shows the relationships between training in the CORs’ technical (functional) areas and in general competencies (e.g., oral and written communication and interpersonal skills) and contract outcomes. Looking across the rows in **Table 3**, we see that more training in interpersonal skills was the only topic related to more positive outcomes in all four areas. More training in organizational skills was related to better contract quality, completeness, and cost. Increased training in the CORs’ technical/functional area and in communication skills were related to better contract

Table 3.
Relationships between training taken in technical/functional and general competencies and improved contract outcomes

Technical and general competency training taken	Quality	Completeness	Cost	Timeliness
Technical knowledge and skill, including proficiency in the COR’s field or functional area, and knowledge of the latest developments in your field	✓		✓	
Oral and written communication to convey facts and ideas, prepare official documents, etc.	✓		✓	
Interpersonal skills, including multitasking, setting priorities, balancing competing demands, and keeping records	✓	✓	✓	✓
Organizational skills, including leading and motivating others, and encouraging diversity and respect for others	✓	✓	✓	
Adaptability, flexibility, resilience, change management, stress management, etc.			✓	
Technological skill to learn and use software and equipment in the performance of duties		✓		

quality and cost. Increased training in flexibility/resilience was related to better contract cost, and increased training in technology and software were related to contract completeness. These data make clear that it is very important for agencies to ensure that CORs are able to obtain training to maintain their functional area expertise. The data also show the importance of providing training in such general competencies as communication, organization skills, and interpersonal skills. Additional training in these general competency areas related to better contract outcomes.

Our data clearly indicate that CORs with at least moderate training in several contracting areas as well as in their technical area and in general competencies experienced better contract outcomes. The information presented in **Tables 2 and 3** can help agencies focus on which contracting topic areas should be included in a particular course and which area of training is important for improving a particular contract outcome. Most formal training (or on-the-job training for that matter) covers more than one topic or competency. Therefore, it is practical to think that moderately increasing the amount of training in selected groups of topics could be an effective and efficient approach to COR training. Agencies should select the topics by assessing the competencies of their CORs (and by asking the CORs for their own perceptions of their training needs, as we discuss shortly) to ensure that training is provided in the most appropriate topic areas.

To achieve a particular contract outcome, such as reduced contract cost or improved quality, an agency may choose to focus its training on those contract topics most related to the areas needing improvement. However, given that many training areas have an impact on at least one contract outcome, agencies may also opt to use established courses on contracting that cover a wide range of areas. If using established courses has generally been successful in the past, there is no need to develop specialized courses unless there is a particularly compelling issue (e.g., contract quality or cost) to resolve. From our perspective, knowing more about how training can affect contract outcomes is helpful to ensuring that COR training is effective and efficient.

COR training needs. While there may be general agreement on what overall topics CORs need training in, we must look to CORs themselves to provide more specific information about their individual training needs. CORs have first-hand knowledge of what topics they need to know more about in order to do their jobs better. Their reports of their own training needs provide information that can help focus training resources on the most critical topics, thus improving the return on investment of training. Procurement policymakers have recognized the importance of CORs' perceptions of their training needs and have suggested that CORs, their supervisors, and/or contracting officers discuss the CORs' training needs and prepare individual training plans to ensure CORs are prepared to perform their contracting duties.³⁰ We asked the CORs to tell us about the amount of training they currently

³⁰ The Federal Acquisition Institute, *Contracting Officer's Technical Representative (COTR): Training Blueprint*, Washington, DC, 2003; Management Concepts, Inc., *Contracting Officer Representative Course (FAC 97-27)*, Washington, DC, 2001.

need in the same contracting, technical, and general skill areas discussed above and listed in **Tables 2** and **3**. We then compared the training needs for all CORs with those for CORs with more than 6 years experience in serving as CORs to determine if the perceived current training needs were less for those with more experience. If the reported training needs for the two groups were similar, it could indicate that CORs need repeated training to maintain their competencies in those topic areas.

Table 4 contains the proportion of CORs overall, and CORs with 6 or more years of experience as CORs, who reported needing a moderate or large amount of training in contracting topics. At least 50 percent of all CORs reported needing training in contract laws, the legal concept of Government agency, developing requirements, requesting bids and developing bid selection criteria, price determinations, and monitoring contractor performance. Between 40 percent to 50 percent of all CORs reported needing training in contracting ethics, processing contracting actions, and contract close-out and termination. Only about one-third of CORs reported needed training in contracting documentation.

Table 4.
Percent of CORs overall and those with 6 or more years of experience
who reported needing a moderate or high amount of training in contracting topics

Contracting topic	Overall	6+ years experience
Contract law and regulations, including rules of competition and method and type of contracting	57%	53%
Government “agency,” the limitations and requirements of representing the Government, “implied agency,” and communications with contractors	53%	50%
Ethics of contracting, including conflicts of interest and security of information	47%	45%
Development of requirements, including what work is to be contracted, specifying requirements, conducting market research, and preparing requirements documents and statements of work (SOWs)	55%	51%
Requesting/assessing bids and proposals, including preparing solicitations, developing contract incentives and objectives, developing criteria for evaluating proposals, and assessing contractor past performance	50%	47%
Price and cost determination, including establishing the Government’s initial cost estimate, and determining prices and fees	51%	47%
Monitoring contractor performance, including providing technical guidance, assessing quality and timeliness, and making scope determination, etc.	52%	48%
Processing contracting actions, including task orders, invoices, change actions, modifications, ratification, etc.	43%	41%
Documentation, including tracking orders, deliverables, timesheets, and other record keeping	37%	35%
Contract close-out, terminations, and appeals and protests	42%	38%

The contracting training needs were not significantly reduced for CORs with 6 or more years of COR experience, indicating that even the most experienced CORs have a significant current need for training in a number of contracting topic areas. Unfortunately, barely half of the CORs strongly agreed or agreed that their agency ensures they get the contracting training they need, yet our data show that more

training in contracting topics relates to improved contract outcomes. Agencies must ensure that CORs are trained, and that training is kept current in most contracting topic areas to maximize the effect on positive contract outcomes.

Table 5 contains the proportion of CORs overall, and CORs with 6 or more years of experience as CORs, who reported needing a moderate or large amount of training in their technical area and general competencies. Surprisingly, more CORs (63 percent) reported needing training in their technical or functional area than in any other training area. This was also the most frequently reported training need for CORs with 6 or more years of experience, with 61 percent reporting a need for training in their technical or functional area. The fact that more CORs overall, and in particular, more CORs with the most experience, reported needing the most training in their technical area indicates that CORs may feel they are struggling to keep abreast of the latest developments in their field. This is true even given the already high levels of education and experience of our CORs.

Table 5.
Percent of CORs overall and those with 6 or more years of experience who reported needing a moderate or high amount of training in technical and other skill topics

Technical and general competency training needed	Overall	6+ years experience
Technical knowledge and skill, including proficiency in your field or functional area, and knowledge of the latest developments in your field	63%	61%
Oral and written communication to convey facts and ideas, prepare official documents, etc.	44%	42%
Interpersonal skills, including multitasking, setting priorities, balancing competing demands, and keeping records	44%	44%
Organizational skills, including leading and motivating others, and encouraging diversity and respect for others	45%	45%
Adaptability, flexibility, resilience, change management, stress management, etc.	43%	44%
Technological skill to learn and use software and equipment in the performance of duties	57%	58%

Unfortunately, even though CORs perceived a need to maintain their level of expertise in their technical or functional area, they often did not believe that their agencies supported them in getting that training. Barely half of surveyed CORs strongly agreed or agreed that their agencies ensured that they got the training they needed in their technical area or general competencies. Our CORs tend to work in highly technical and scientific fields that change rapidly and thus require regular training to maintain currency in a particular discipline. As discussed earlier, our data indicate that technical training is related to better contract outcomes, making it critical that agencies ensure that their CORs are able to keep abreast of changes in their technical area of expertise.

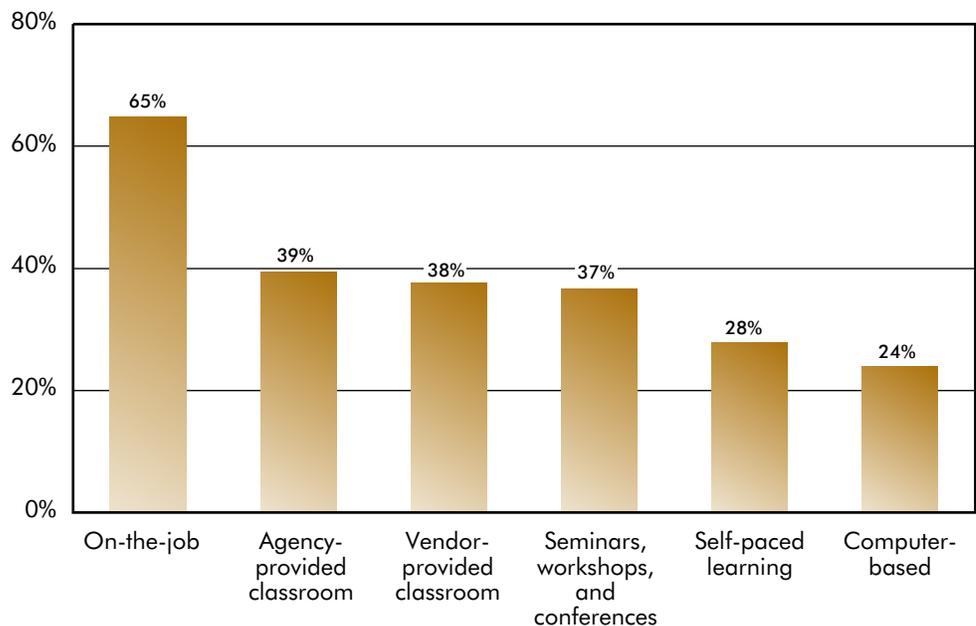
Well over half of CORs overall, and slightly more CORs with 6 or more years of experience, indicated a substantial need for training in technological skills to

use software and equipment in the performance of their duties. Between 43-45 percent of CORs overall and only slightly fewer CORs with more than 6 years of experience reported needing training in communication skills, interpersonal skill, organizational skills, and adaptability. As stated earlier, barely half of CORs agreed or strongly agreed that their agencies ensured they got the training they needed in their technical area or in general competencies.

Our data indicate a substantial need for training in almost all the contracting, technical, and other competencies, even for those with 6 or more years of experience. Unfortunately, CORs do not agree that their agencies ensure they get the training they need, yet our data show that more training in most of these topics relates to improved contract outcomes. Agencies must ensure that CORs are trained, and that training is kept current to maximize the effect on positive contract outcomes.

Method of training. In addition to understanding the relationships between training and contract outcomes, and the training needs of CORs, it is also important to look at what types of training CORs considered most useful. **Figure 6** shows COR ratings of the usefulness of various training approaches. The most useful form of training was on-the-job training, rated by 65 percent of CORs as very useful or extremely useful. The next most useful methods of training were agency-provided classroom training, vendor-provided classroom training, and seminars (including workshops and conferences), respectively. The least effective methods of training were computer-based training (CBT) and self-paced learning. More than 30 percent of our respondents rated this training as not at all or only minimally useful and it was rated as extremely or very useful by the smallest share of CORs.

Figure 6. Percent of respondents who rated the method of training as extremely or very useful



CORs seem to find that training in which they can interact with their colleagues or other participants in the contracting process is more useful than CBT or self-paced learning. One respondent commented, “Contracting professionals need to discuss and exchange ideas/solutions with a live person, hopefully well qualified, in order to return to the office and be more effective as a result of the knowledge gained in class.” On-the-job training, agency- or vendor-provided classroom training and seminars, workshops and conferences provide opportunities for CORs to discuss and exchange ideas with others involved in contracting. CBT or self-paced learning limits the discussion and exchange of ideas that are the basis of more successful COR training experiences. Self-paced or computerized training may have a place in initially exposing CORs to contracting or providing limited refresher training. However, agencies should be careful about relying too heavily on these methods because many CORs do not find them useful when compared to training that allows interaction and discussion. While we found that more training in contracting topics, the CORs’ functional areas, and in general competencies was related to better contract outcomes, we did not attempt to ascertain the training’s quality. These training results presumably would be even more dramatic if agencies ensured CORs received high-quality training.

The data on perceived training needs by years of COR experience indicate that agencies should provide adequate initial training *and* ensure subsequent refresher training in almost all topic areas, to ensure that CORs have the knowledge they need to effectively perform their COR duties. In particular, agencies need to support technical training to help CORs keep abreast of changes and advances in their technical or functional area. Maintaining their technical expertise is critical to their ability to manage the technical aspects of the contract and to ensure that contract deliverables meet the Government’s technical requirements. Agencies also need to select the appropriate method of training to ensure that the training gives CORs the opportunity to interact with others with contracting experience and to resist relying too heavily on CBT and self-paced learning. Overall, our data indicate that agencies can do much more to ensure that CORs are trained to perform their contracting work effectively.

Strategic management of the COR workforce

Recent Office of Management and Budget (OMB) policy requires agencies to identify and strategically manage their CORs to ensure that they have enough employees with the right skills to effectively develop and manage the technical aspects of contracts.³¹ In addition, GAO advises agencies to conduct strategic human capital planning that includes integration of acquisition workforce data.³² CORs comprise a critical workforce for the Government generally, and especially for agencies that rely on contracts to perform or support a significant portion of their mission. As a critical workforce, CORs should specifically be included in agencies’

³¹ OFPP Policy Letter 05-01.

³² U.S. Government Accountability Office, *Framework for Assessing the Acquisition Function at Federal Agencies*, Washington DC, September, 2005.

strategic human capital plans. These human capital plans should cover issues such as how many CORs agencies need now and in the future, and what competencies those CORs should have. Agencies also need to know who their current CORs are, where they are located, and what competencies they currently have. Finally, agencies need to be able to compare what they need and what they have, and develop plans to alleviate any shortcomings in COR numbers and competencies, particularly since one-third of CORs will soon be eligible to retire.

The Office of Federal Procurement Policy (OFPP) Act required that agencies track CORs and COR training.³³ Practically speaking, it is difficult, if not impossible, to strategically manage a workforce without this information. Some agencies we worked with had developed automated systems to track COR training and some had systems that tracked where CORs worked. Many other agencies we worked with did not have readily accessible data systems for tracking who their CORs were, what training they had, and where they worked. Some agencies reported that identifying and locating their CORs would require going through, by hand, paper files on every current contract. Agencies must overcome the fundamental problem of identifying and locating their CORs if they are to effectively manage them as a critical workforce.

To be fair, identifying and tracking CORs is much more difficult than tracking other components of the Federal workforce. Most employees can be readily identified by their Governmentwide General Schedule series (occupation) codes maintained by the agency personnel offices and by the Office of Personnel Management (OPM). Employees with COR responsibilities, on the other hand, are not identifiable by occupation code and often perform contracting duties as an additional, often ad hoc, portion of their job.

OFPP Policy Letter (05-01) requires agencies to locate and submit data on their CORs to the Federal Acquisition Institute Acquisition Career Management Information System (ACMIS) by April 1, 2007. The Policy Letter also states that the Enterprise Human Resources Integration system (EHRI) developed by OPM will work in concert with ACMIS by providing general workforce data and information for ACMIS. From our standpoint, HR policymakers should go one step further and develop a mechanism for identifying and tracking CORs easily within existing HR systems. A broadly applicable Governmentwide method to identify CORs, linked to additional personnel information, would have the advantage of providing readily usable Governmentwide data on CORs that would be useful for a variety of Federal policymakers.

This new code could take the form of an identifying code much like the supervisory status identifier in the Central Personnel Data File (CPDF) managed by OPM. The supervisor code identifies people with supervisory responsibility, but allows those

³³The Office of Federal Procurement Policy Act (41 U.S.C. §433), as amended by the Federal Acquisition Reform Act of 1996, also called the Clinger-Cohen Act of 1996 (40 U.S.C. §1401(3)) for Federal civilian agencies and The Defense Acquisition Workforce Improvement Act (DAWIA) (10 U.S.C. §§1741-46) for the Department of Defense.

employees to retain their occupational identity. Using the supervisor code along with the occupational series identifier allows us to identify first-line supervisors who are responsible primarily for managing the workforce that costs about \$100 billion per year in salaries and benefits.³⁴ It seems reasonable to consider a similar code to identify CORs, who provide the first-line oversight of more than \$325 billion in contracts per year, but who, for other management and career purposes, should retain their occupational identity.

Managing CORs day-to-day to do their contracting work

Agencies make specific decisions about the CORs' involvement in contracts that can affect how well CORs are able to do their contracting work. For example, key agency representatives such as COR supervisors, program managers, and contracting officers make a variety of decisions every day that effect how CORs are able to do their work. These professionals select which CORs are involved in a particular contract, determine when CORs are first involved in a particular contract, assign the specific tasks that CORs must do on a particular contract, determine how much time CORs are able to work on their contracting duties, rate CORs on the performance of their contracting work, and manage the CORs' interactions with the other Federal employees who do contracting work.

Selection and assignment of CORs

We asked CORs to tell us how they believed they were selected to work on a particular contract by choosing one or more reasons from a survey listing. Most CORs (70 percent) reported that *at least one* of the reasons they were selected to be CORs was because of their technical work or qualifications. Almost one-third (32 percent) of CORs reported that their technical work or qualifications was the *only* reason they were selected. Just over half (52 percent) of our respondents reported that their program responsibilities were one of the reasons they had been selected. And, almost 80 percent of CORs reported that knowledge and experience with contracting was not a factor in their selection. In addition, when asked about what factors impact their contracting work, 70 percent of our CORs reported that their work location in relation to where the contract work was being performed facilitated their ability to perform their contract related duties. Notably, CORs who rated work location location as an actual factor that impacted their work, also reported better contract outcomes.

These perceived reasons for COR selection suggest that while some agencies may be selecting CORs based on reasonable criteria, other agencies may need to focus more overtly on both the COR's technical and contracting skills and experiences. In addition, our interactions with agencies revealed that some agencies have established criteria for selecting CORs while other agencies have no criteria.

³⁴ Here we distinguish between first-line supervisors whose provide daily oversight of the workforce and managers and senior executives who are responsible for overseeing workforce costs as well as supplies, support, facilities and other costs required to run programs.

Given the level of responsibility CORs have in overseeing contracts, it may be advisable for agencies (and for Governmentwide policymakers) to consider establishing criteria for selecting CORs. Some of the criteria listed in the FAR for selecting contracting officers, such as contracting experience and training, might be useful for CORs. Additional criteria for selecting and assigning CORs should include the required expertise in particular functional or program areas, and perhaps other factors, such as work location.

When CORs should first be involved in a contract

Guidance suggests that CORs should first become involved in the contract early in the contracting process; preferably, at the point the agency is contemplating obtaining a particular good or service through a contract.³⁵ When CORs are involved early in the process, they can help ensure that the technical aspects of contract development are done correctly. As discussed earlier, well developed contracts are easier to manage and are more likely to result in better outcomes. A substantial proportion of CORs (73 percent) reported that they typically became involved in contracts during the pre-award phase of the contract. In addition, CORs who reported first becoming involved before the contract award also reported better quality of the contract deliverables. Approximately 78 percent of those who started working on contracts before the award reported having high-quality deliverables versus approximately 69 percent of those who started working on the contract after the award.³⁶ Accordingly, it seems advisable for agencies to seek to assign CORs early in the contracting process.

Contracting tasks

Because of the great variety of tasks that CORs typically perform on contracts, we wanted to know if frequency of performing certain tasks was related to better contract outcomes. Accordingly, we asked our CORs to report the frequency with which they performed a variety of pre- and post-award contracting tasks.

CORs who performed certain pre-award tasks more frequently also reported better contract outcomes in at least one of the four outcome areas. **Table 6** shows the proportion of CORs who reported that they always or frequently performed a variety of pre-award tasks in order of descending frequency. The most frequently performed pre-award task, performed by 65 percent of our CORs, was establishing requirements and writing SOWs. This is perhaps one of the most important tasks for CORs to perform, as this is the step in the contracting process when the Government must accurately and completely describe its technical (and other) contract requirements. CORs are responsible for ensuring that the technical

³⁵ The Federal Acquisition Institute, *Contracting Officer's Technical Representative (COTR): Training Blueprint*, Washington, DC, 2003.

³⁶ These ratings reflect the single contract outcome of the quality of deliverables. However, as discussed earlier, only about 52 percent of CORs rated their contracts as achieving all four contract outcomes—quality, completeness, timeliness, and cost—simultaneously.

requirements are described accurately and completely in the SOWs. When this is done effectively, contractors are better able to understand the requirements and thus prepare and submit better proposals. The resulting contract is clearer and less prone to misinterpretation and problems. This critical task also requires the COR to spend time thinking about exactly what is to be expected of the contractor. This, in turn, may make the COR more knowledgeable about the contract he or she will be overseeing and the many related factors involved in it.

Other pre-award tasks performed by at least one-half of our CORs included recommending work to be contracted, assessing contractor past performance, forecasting budget needs, and estimating costs. Unfortunately, except for establishing requirements and preparing SOWs, less than half of surveyed CORs reported that they are always or frequently involved in many critical pre-award activities most related to the technical aspects of the contract. In particular, only 41 percent help define contract objectives and incentives, 45 percent develop or apply proposal review criteria, and 45 percent participate in the contractor selection process. The remaining pre-award tasks were performed much less frequently by the responding CORs, though these tasks can influence the contract technical requirements or costs.

Table 6.
Percent of CORs who frequently or always performed pre-award tasks

Percent	Pre-award task
65%	Establish requirements, prepare requirement documents, write Statements of Work (SOWs)
55%	Estimate costs, calculate initial Government's cost estimate
54%	Recommend or decide what specific work is to be contracted
51%	Forecast budget or funding needs, recommend funding actions
50%	Assess contractor past performance
45%	Develop and/or apply proposal review criteria
45%	Participate in contractor selection process
41%	Define contract objectives and incentives
31%	Determine contract method and/or type
28%	Communicate with contractors prior to award
24%	Conduct market research to define requirements or to find possible contractors
20%	Conduct cost-benefit analyses

From our perspective, agencies, and in particular contracting officers, should assign tasks to the COR that are critical for ensuring positive contract outcomes. In particular, these tasks should include those involving the technical aspects of the contracting process such as establishing requirements, defining contract objectives and incentives, developing or applying proposal review criteria, and participating in the contractor selection process. These tasks require the COR's expertise and are important for ensuring a well developed contract, which in turn is important for effective contract oversight leading to better contract outcomes.

In general, CORs who reported doing post-award tasks more frequently also reported more positive contract outcomes. **Table 7** lists the post-award tasks and the proportion of CORs who reported that they performed these tasks frequently or always. The most frequently reported post-award tasks involved the technical and administrative aspects of overseeing the contract, such as evaluating and certifying contractor performance, reviewing and approving invoices, providing technical guidance, and acting as the liaison between the program, CO, and contractor. The technical oversight provided by CORs after a contract is awarded is critical to ensuring the contract produces results that meet the Government’s technical requirements.

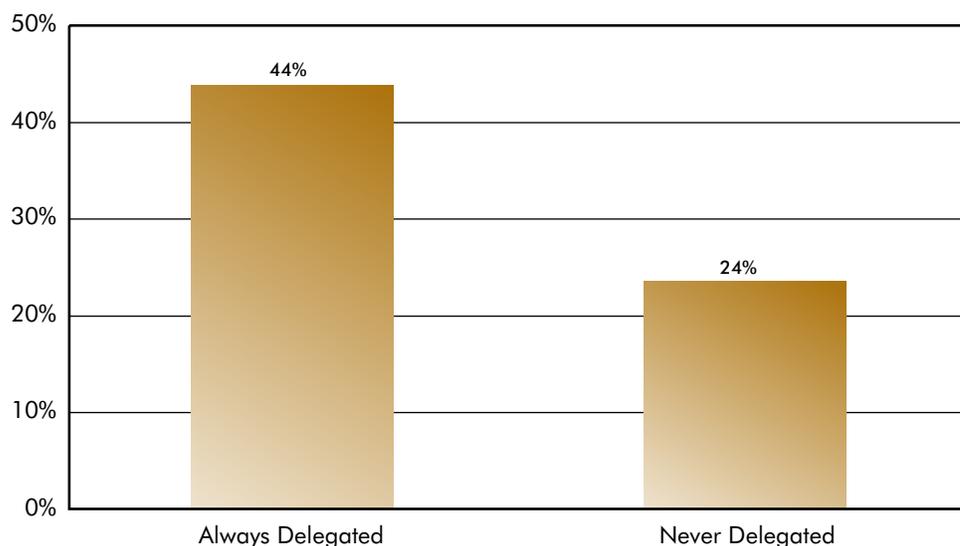
Table 7.
Percent of CORs who frequently or always perform the post-award task

Percent	Post-award task
74%	Evaluate and/or certify the performance of the contractor
71%	Review and/or approve invoices
71%	Provide technical guidance or interpretation of technical requirements to contractor
70%	Act as liaison between contractor and CO, or between contractor and management
68%	Review and accept or reject deliverables
67%	Coordinate and track deliverables
66%	Document contract actions, ensure appropriate contract records are maintained
64%	Determine and/or certify that new work is within scope of contract, or that scope needs to be modified
62%	Assist in meeting the Government’s contract obligations to the contractor
61%	Track and report contract delays
60%	Monitor the day-to-day work of the contractor
57%	Review and/or approve contractor work plans
57%	Suggest, initiate, and/or recommend contract modifications
44%	Manage contractor use of or access to Government property and facilities
42%	Approve and/or certify funds for contracting actions, request de-obligation of funds
40%	Conduct program management reviews
36%	Report suspected conflict of interest and/or fraud, waste, and abuse
33%	Review contractor employee resumes, ensure personnel security
31%	Supervise others who do one or more of the tasks above

As with the assigning of pre-award tasks, agencies should assign CORs the post-award tasks that most effectively use the CORs’ expertise. While CORs may not need to perform all of the possible post-award tasks for each contract, they should be assigned those that are most related to the technical aspects of the contract. These tasks would include evaluating contractor performance, providing technical guidance to the contractor, reviewing and accepting deliverables, determining that work is within the scope of the contract, monitoring the day-to-day work of the contractor, suggesting contract modifications, and conducting program reviews.

One critical post-award task deserves specific mention—reporting suspected conflict of interest and/or fraud, waste, and abuse. Over one-third of our CORs (36 percent) reported that they frequently or always “do” this post-award task. More importantly, as shown in **Figure 7**, CORs with formal delegations of authority are almost twice as likely to report that they frequently or always “do” this task than are CORs who are never formally delegated their authority. The finding that formal delegation of authority is related to the frequency of doing the task of reporting suspected conflict of interest and/or fraud, waste, and abuse is particularly striking. It is important that agencies take every action to support, permit, and encourage CORs to report such activity in relation to the contracts on which they work. Delegation clearly has a positive relationship with COR reports that they protect the interests of the Government by reporting any fraud, waste, and abuse. This is a powerful reason, separate from the regulatory requirement, to always formally delegate authority to CORs.

Figure 7. COR reports of waste, fraud and abuse by frequency of formal delegation



In general, CORs who reported more frequent performance of all pre-award and post-award contract tasks also reported better contract outcomes in at least one of the four outcome areas. Therefore, CORs should be performing all of these tasks more frequently. As we learned earlier, it is interesting to note that CORs seem to perform these tasks more frequently when they have been formally delegated their contracting authority.

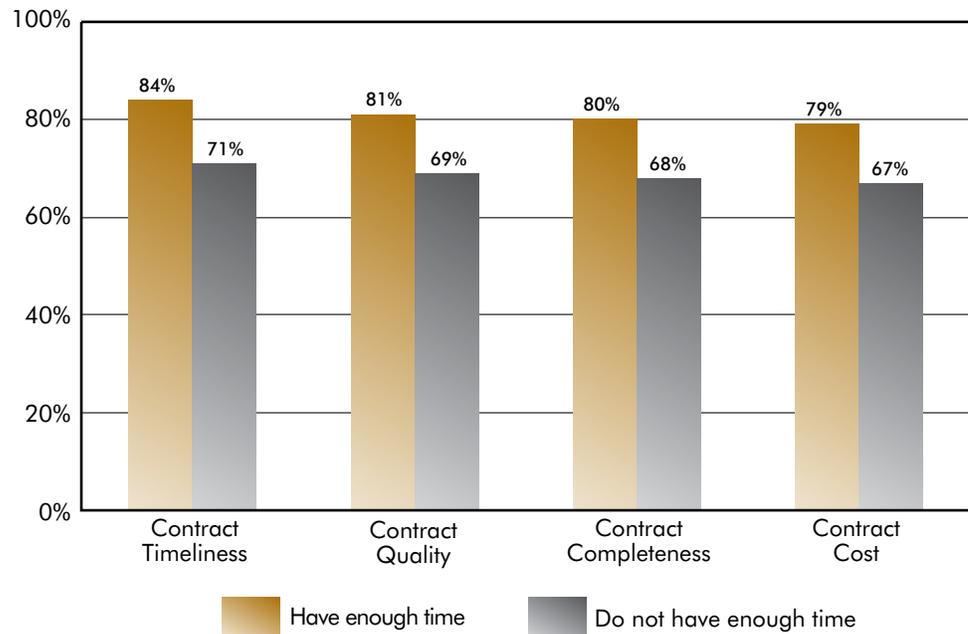
Time available for contracting work

The amount of time CORs spend on contract responsibilities varies widely. A little over one-third of our CORs (35 percent) reported working on contracts 25 percent or less of their time. About 40 percent of CORs worked on contracts between 26 and 75 percent of their time. About one-quarter of our CORs reported working on contracts 76 percent or more of their time. However, the percentage of time spent

on contracting duties does not relate to better contract outcomes. So, spending a greater percentage of their time on contracting does not necessarily improve the outcomes.

Interestingly, COR perceptions of having enough time to devote to this contract-related work were not related to the amount of time they spent on such work. Regardless of how much time CORs reported devoting to contract duties, approximately 28 percent reported that they still do not have enough time. Most importantly, CORs who reported having enough time to do their contracting work reported more positive contract outcomes than did those who reported not having enough time. As **Figure 8** indicates, the CORs' perception of having enough time for contracting work positively affected contract outcomes. This finding suggests the potential value to agencies of listening to CORs and to their perceptions of how much time they have for contracting work, and then helping CORs balance their contracting work in relation to their non-COR work.

Figure 8. Positive contract outcomes by perception of time for contracting work

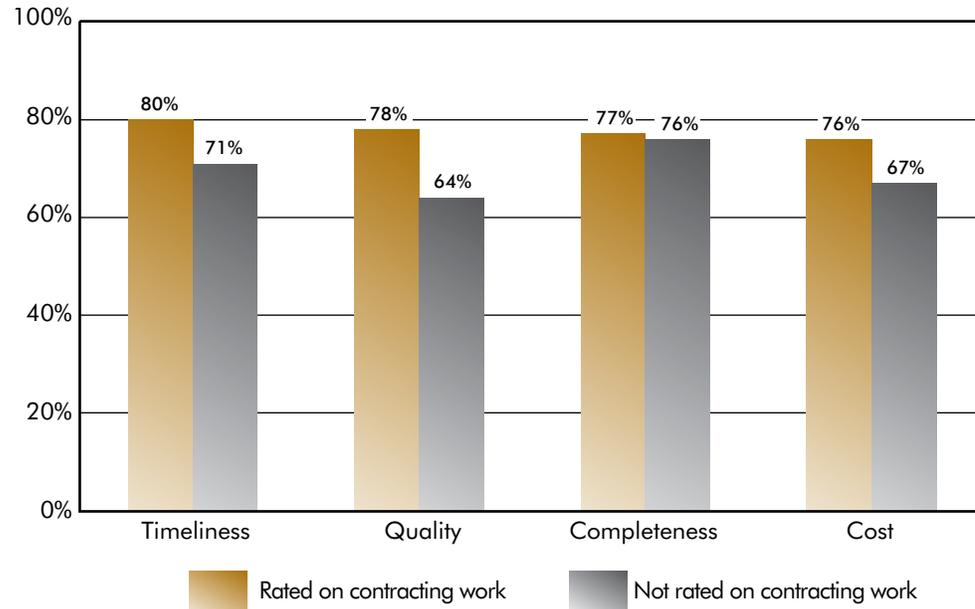


Rating CORs for performing their contracting work

To hold CORs accountable for their contracting work, agencies must first ensure that CORs are clearly informed about their responsibility and authority, and then assess their performance in completing these duties. This essential communication of the authority and responsibility a COR has for a particular contract is expressed through the formal delegation of contracting authority to the COR. Here we will discuss the degree to which agencies rate CORs on the performance of their contracting duties.

Most of our respondents (80 percent) reported that they are rated, or otherwise held accountable for the performance of their COR duties. As **Figure 9** shows, CORs who are rated on the performance of their contracting work also reported more positive contract outcomes, especially in terms of timeliness, quality, and cost, than did CORs who are not rated on their contracting work. These data indicate that most agencies consider the CORs' work to be important—at least for rating purposes.

Figure 9. Positive contract outcomes by whether or not agencies rate CORs on their performance of contracting work



While the practice of evaluating or rating CORs on the performance of their contracting work is positively related to better contract outcomes, it was clear earlier that not all CORs had been formally delegated the authority to perform their contracting work. This indicates that some CORs are being held responsible for performing their contracting work, but are not necessarily being given the authority to carry out these duties. In order to hold employees accountable for their work, they must have the formal responsibility and authority for that work.³⁷ This principle is particularly important for CORs because of their role in ensuring that the Government gets what it needs from the billions of dollars it spends on contracts. Earlier we showed the positive relationship between delegation of authority and contract outcomes; here we show the positive relationship between rating the CORs' performance and contract outcomes. Agencies must take both actions to effectively hold CORs accountable for their contracting work.

³⁷ U.S. Merit Systems Protection Board, Report to Commission on the Public Service, the "Volcker Commission," Washington, DC, 2001.

Interactions with other Federal employees involved in contracting work

CORs work with many other Federal employees in performing their contracting duties including program supervisors, program managers, executives, COs, and other employees in a variety of other occupations. The perceptions CORs have of these employees have an important relationship to how well CORs are able to perform their role in the contracting process. When CORs rate these other employees as being competent, ethical, and supportive of the CORs' work, we would expect it to be easier for the CORs to perform their contracting duties—thus having a positive effect on contract outcomes. Conversely, having to work with employees whom CORs perceive as less competent, less supportive, and having questionable ethics could make the COR's job more challenging—thus having a potential negative effect on contract outcomes. In these more adverse kinds of circumstances, the COR may have to spend effort accomplishing work that others should be doing, or may otherwise have to spend effort avoiding or overcoming ethical dilemmas. These efforts may take away from the COR's ability to deal with the more technical issues of the contract, and thus can negatively affect contract outcomes.

Most CORs (74 percent) reported that their supervisors provide support for their contracting work. Somewhat fewer CORs (59 percent) reported support from their higher level managers. Only one-half of CORs reported support from agency executives. These perceptions of reduced levels of support as we moved up the chain of command are common in most organizations and are often attributed to the lack of interaction lower level employees may have with more senior management officials. These levels of support for the CORs' contracting work may be appropriate in many circumstances. However, when the issue involves very complex and expensive contracts, these levels of perceived support, or lack thereof, could present problems for CORs in carrying out their duties and for the agency in ensuring positive contract outcomes.

We asked CORs the degree to which they agreed that the actions of their superiors were in accord with public service and contracting ethics. Slightly more than three-quarters (77 percent) of our CORs agreed or strongly agreed that the actions of their superiors were in accord with public service and contracting ethics. This leaves almost one-quarter of CORs who were neutral (17 percent) or disagreed (6 percent) that their superiors' actions were in accord with public service and contracting ethics. When CORs are unsure of, or question the ethics of their management, whether accurate or not, they may devote effort to overcome the actual or perceived problems caused by these ethical concerns, leaving less time for the technical aspects of the contract. In addition, these perceptions may act as a disincentive to reporting problems with contracts, can be discouraging to CORs, and can reduce their motivation (and that of other employees) to perform their contracting and other duties.

We also asked our respondents about the COs with whom they worked. The relationship between the CO and the COR is very important in terms of ensuring positive contract outcomes. COs bear the legal responsibility for the contracts,

including the delegation of COR authority. CORs and COs must work together effectively to protect the interests of the Government. Our CORs gave relatively high marks to their COs. About 71 percent of CORs indicated that their relationship with the CO facilitated their job. In addition, 79 percent of CORs reported that the CO was available when needed, 76 percent reported that the CO was responsive, and 77 percent reported that the CO took action when necessary. Approximately 83 percent of CORs reported that the CO had the necessary contracting skills to do the contracting work. Most CORs (72 percent) also reported that the CO had the necessary organizational and customer service skills to perform the CO role effectively. Almost 90 percent of CORs reported that the actions of their COs were in accord with ethical guidelines. It is very reassuring that CORs view the actions of contracting officers as ethical. COs are ultimately responsible for the ethical issues involved in contracting, including ensuring that the process is fair and open and results in the best overall value for the Government. Based on our data, a cooperative relationship between the CO and the COR, at least from the CORs' perspective, is related to improved contract outcomes. Agencies should heed these perceptions in terms of the contracting structure and processing requirements COs and CORs must use. When COs and CORs work well together, the data suggest that better contract outcomes will result.

CORs also work with other agency employees in doing contract work. For example, they work with administrative, finance, logistic, and legal staff as well as technical experts in other functional areas related to the contract. In some agencies, CORs routinely work with only one or two of these employees. In other agencies, and especially for large, complex, and costly contracts, CORs are members of a team of such professionals who work together to oversee and manage the contract. About two-thirds of the CORs in our study reported that other employees they worked with had the skills they needed and were available to perform contracting work. In addition, 82 percent of CORs reported that the actions of these other employees were in accord with ethical guidelines.

In our data, when our CORs reported more positive perceptions of their colleagues (at all levels and in all roles), they also reported better contracting outcomes in terms of timeliness, quality, completeness, and cost of deliverables. These results indicate that agencies need to ensure that the right people, with the right skills are tapped to perform the various roles in the contracting process.

Conclusions on managing CORs

CORs are primarily responsible for helping ensure that the more than \$325 billion spent on Federal contracts each year produces results that meet the Government's technical requirements. How well CORs are managed is no trivial matter. The degree to which agencies meet the regulatory requirements for managing CORs and the day-to-day management decisions that agencies make can either help or hinder the ability of CORs to do their contracting work effectively. Our data show that several COR management issues are related to improved contract outcomes.

Our strongest and perhaps most important findings concern the Federal regulatory requirements for managing CORs. When CORs are formally delegated their authority to perform contracting work by the CO, they report better contract outcomes. In addition, when CORs have sufficient (initial and repeated) training in contracting, technical, and general competencies presented in the right way, contract outcomes are better. Finally, agencies must manage CORs strategically to ensure they have enough CORs with the right skills to handle their current and future contracting needs. These regulatory requirements exist for a reason and agencies should treat them as more than pro forma requirements. Contract outcomes are more positive when agencies:

- ❑ Formally delegate authority to the COR
- ❑ Ensure that CORs get the right training at the right time in the right way
- ❑ Manage CORs strategically by identifying, locating, and tracking CORs and their competencies

Several aspects of the day-to-day management of CORs are related to more positive contract outcomes. Some agencies do relatively well at selecting and assigning CORs, appointing them early, and holding them accountable. Our data provide empirical support for agencies to continue to do these tasks well. In other cases, agencies need to improve their day-to-day management of CORs as they perform their contracting duties. In general, we found that contract outcomes are better when agencies:

- ❑ Select/assign CORs based on established criteria including their technical expertise and knowledge of contracting
- ❑ Ensure that CORs start work on a contract early in the contracting process
- ❑ Ensure that CORs more frequently perform contracting tasks related to the technical aspects of the contract
- ❑ Ensure that CORs have enough time for their contracting-related work
- ❑ Rate CORs on the performance of their contracting duties
- ❑ Consider the other Federal employees who affect the COR's contracting work

In the next section, we make recommendations based on these findings. We particularly specify actions that CORs, agencies, and policymakers can take to improve the way CORs are managed. Improving COR management will help CORs do their contracting-related work more effectively, thus contributing to better contract outcomes.

Recommendations to Improve COR Management

CORs, agencies, and Governmentwide policymakers can all take steps to improve the ability of CORs to do their jobs effectively. Our recommendations focus on controllable, practical, and supportable actions, and are based on the relationships we found in our data between COR management and contract outcomes. Our recommendations also draw from existing regulatory guidance and standards of management. Recommendations for improvements in some areas involve action by more than one person, agency official, or policy-making group. While COR management is fundamentally an agency responsibility, there are actions that CORs themselves can take to improve their own ability to manage contracts better. In addition, there are actions that policymakers can take to help agencies manage CORs better, thus helping ensure a more effective Governmentwide COR workforce. In order to make clear the role that each person or group has in improving the management of CORs, we organized the recommendations by the person or group that would have primary responsibility for their implementation.

What should CORs do?

There are actions that CORs can take to improve their ability to perform their contract duties effectively. In particular, CORs should actively seek the training they need and seek to be involved in the technical aspects of contract development to ensure that their technical expertise will be used in a timely and effective way.

Seek necessary training. CORs are similar to most other Federal employees in that they report a need for more training to do their jobs more effectively. CORs have significant responsibility in ensuring that the billions of dollars spent each year on Federal contracting results in deliverables that meet the Government's technical needs. Because our data show that more training is related to better contract outcomes, the potential risks of neglecting COR training needs are great. While agencies ultimately control training, CORs should continually assess their current skills and request new or updated training when appropriate. CORs are responsible for effectively performing their contracting duties, so they should take an active role in securing training, or at least making sure their supervisors are clearly informed of any training needs.

Seek involvement in the technical aspects of contract development.

When CORs know of potential procurement activities, they should seek to be involved in the technical aspects of the contract beginning with contract development. Their involvement in pre-award technical activities is critical because a well developed contract lays a foundation for more positive contracting outcomes. CORs provide the technical expertise to ensure that the SOW's technical requirements are complete and accurate, to establish sound technical review criteria, and to appropriately establish the scope within which all parties to the contract must work. It makes sense that a COR can more effectively, and perhaps more efficiently, oversee a contract if he or she is involved in establishing the technical aspects of the contract. And, as our data demonstrate, COR involvement in the pre-award technical aspects of the contract is related to more positive contract outcomes.

What should agencies do?

Managing CORs is a fundamental part of a successful contracting function. An agency can make any number of changes in the way it uses contracting regulations, in the way it structures contracts, and even in what it purchases with contracts. However, successful contract outcomes will always rely in large part on the Federal employees involved in contracting work. We have focused on the CORs who are involved in the technical aspects of contracts and thus are responsible for ensuring that the contract deliverables meet the Government's technical needs. Failure to consider COR management as a critical component of the agency's contracting function will inevitably limit the agency's overall success in contracting.

Agencies are primarily responsible for all aspects of COR management. CORs may or may not seek training, but agencies still must ensure that they get the training they need. Governmentwide policymakers may or may not develop ways to better identify and track CORs, but agencies still have to identify and strategically manage their CORs to ensure they have enough CORs with the right competencies to oversee the agencies' contracts.

Agencies need to do better at complying with the regulatory requirements for managing CORs and at managing CORs day-to-day in the performance of their contracting work. Some of the specific recommendations are straightforward; others may be more challenging to implement. Some recommendations may require developing new policies and all recommendations require more consistent implementation and better oversight of policies. Always, these actions should be taken with the goal of ensuring that CORs are better able to perform their contracting duties and achieve positive contract outcomes.

Our recommendations for agencies involve actions by COR supervisors, program managers, and COs. Indeed, program managers, are involved in every aspect of COR management and thus have a key role in every recommendation we make. In

addition, senior agency procurement managers (such as the agency chief acquisition officer, senior procurement executive, and acquisition career manager), and senior agency human resources managers (such as the chief human capital officer and HR director), must be involved in policy development and oversight. At the end of the recommendations section we make clear which individuals or groups within an agency should be involved in implementing recommendations in particular regulatory and day-to-day management areas.

Improve compliance with regulatory requirements for managing CORs

Formally delegate authority to the COR. While Federal regulation requires COs to formally delegate duties to their selected representatives, we found this did not always occur. Our data show that the formal delegation of COR authority is related to more positive contract outcomes. Formal delegation is a straightforward, meaningful action that agencies should implement on more than a *pro forma* basis.

Provide the right training to CORs in the right way. More training in several contracting areas was related to better contract outcomes. Even the most experienced and successful CORs reported substantial needs for training in contracting topics and other professional competencies. A large proportion of CORs also reported needing training in their technical or functional area. In addition, our data indicate that one-time training is often not sufficient to ensure that CORs have and maintain the skills they need to do their job. In addition, training delivery should focus on settings in which CORs can communicate with experienced instructors, COs, and other CORs. Agencies should exercise caution in implementing a training program consisting primarily of computer-based and self-paced learning.

Strategically manage CORs as a critical workforce. CORs are critical to an agency's mission, especially if the agency relies significantly on contracting to accomplish its mission. Good management principles, as well as OMB guidance, require that agencies strategically manage their CORs to ensure that they have enough CORs with the right skills to manage the technical aspects of contracts, now and in the future. To accomplish this, agencies need to establish effective mechanisms to identify and track CORs and their competencies. While conducting this study we found that many agencies do a poor job of identifying and tracking their CORs. Correcting this problem is a critical step in improving how agencies manage CORs and the CORs' ability to perform their contract duties effectively. Once CORs are identified and located, agencies should compare their existing competencies with those the agency needs them to have, and hire or train CORs to meet those needs. While Governmentwide policies would help with this issue, agencies still bear the primary responsibility for having enough technical experts to plan and oversee their contracts.

Manage CORs better on a day-to-day basis as they do their contracting work

Improve the degree to which CORs are selected and assigned based on established criteria. Some agencies seem to be doing a reasonable job in selecting and assigning CORs based on their technical expertise and other pertinent criteria, while others have no established criteria to use to select CORs. Agencies that lack criteria for COR selection and assignment should consider establishing guidance to help ensure the right CORs are designated to work on the right contracts. Because CORs help develop and oversee the technical aspects of contracts costing the Government more than \$325 billion per year, selecting and assigning CORs should not be left to chance. Agencies can use a variety of criteria, including some of the material listed in the FAR for selecting COs, to ensure that they select CORs with the necessary technical expertise and other qualifications.

Involve CORs early in the contracting process. The most effective time to involve CORs in a particular contract is when the agency first contemplates purchasing a product or service. When CORs are involved early, even as early as in the determination of a need to purchase a product or service, they can ensure that the contract is clear and accurate, especially with regard to the technical requirements. A well developed contract is easier to oversee and more frequently yields deliverables that meet the needs of the Government.

Involve CORs in all the technical tasks of the contract. When CORs more frequently perform all types of contracting tasks, both pre- and post-award, they reported better contract outcomes. However, rather than simply having CORs do more tasks more frequently, we recommend that agencies focus on those tasks that are most critical for the COR to perform. For most contracts, these will be the tasks related to the technical aspects of the contract. If the COR has limited time to devote to a particular contract, assigning the technical tasks to the COR is most likely to result in better contract outcomes. Other agency personnel could be assigned to do the less technical tasks.

Ensure that CORs have adequate time to perform their COR work. Agencies should ensure that CORs are able to balance their COR and non-COR responsibilities in a manner that allows them to devote the attention required to ensure that positive contract outcomes are achieved. CORs who believed they have enough time to perform their contracting work also reported better contract outcomes.

Rate CORs on the performance of the contracting work. When agencies do rate CORs on their performance of their contracting work, contract outcomes are better. However, to ensure adequate accountability, agencies must also do a better job at clearly conveying to CORs what their responsibilities and authorities are for their contracting work. As recommended earlier, agencies should do this through formally delegating authority to the COR.

Consider the other Federal employees who affect the CORs' work. The competence and ethical behavior of the other Federal employees with whom CORs work on contracting, as well as the support these other Federal employees provide to CORs, can affect how well CORs perform their contracting work. CORs who rated their supervisors, senior agency managers, COs, and other agency employees with whom they work on contracting issues as being competent, ethical, and supportive of the COR's work, also reported better contract outcomes. Therefore, agencies need to consider the impact these people have on CORs, and if necessary, address the way they manage those other people involved in contracting as well as how they manage CORs. Agencies need to ensure they have the right people, with the right skills, to perform all parts of the contracting process.

What should policymakers do?

Two issues involving the management of CORs are worthy of attention by Governmentwide policymakers and practitioner groups to take advantage of economies of scale, help improve agencies' ability to manage CORs, and help maintain the COR workforce Governmentwide. These recommendations for Governmentwide policymakers may require collaboration between OFPP, the Federal Acquisition Institute (FAI),³⁸ the Defense Acquisition University, the Chief Acquisition Officer's Council, Chief Human Capital Officers Council, OMB, OPM, and other appropriate groups.

Establish a Governmentwide method to identify and track CORs.

Procurement policymakers have established a Governmentwide database for CORs. Agencies have to populate this database with COR data by April 1, 2007. However, it would be helpful to agencies and other policy makers to be able to identify CORs within existing HR databases. In this way, COR data could be readily considered by agencies along with data for other critical occupational groups in the agency's strategic human capital planning activities. To do this, we recommend that OPM, as part of its efforts to improve HR record keeping, establish a code to identify CORs, much like the code currently used in the CPDF used to identify supervisors. Supervisors and CORs provide first-line management and oversight for billions in Government resources. In addition, for both groups it is important to be able to identify both their area of technical or functional expertise as well as their critical skills as a supervisor or COR.

Recognize the strategic value of the COR workforce. Policymakers should recognize and highlight the importance of CORs and COR work. Indeed, OFPP Policy Letter 05-01 requires agencies to consider CORs in their strategic workforce planning activities. However, given the enormous financial ramifications of the work performed by CORs, perhaps more specific guidance on managing CORs should be included in the FAR. This guidance should cover issues such as criteria for selecting

³⁸ The FAI is governed by a Board of Directors appointed by the OFPP.

CORs, when CORs should begin working on contracts, and what duties CORs should be responsible for as they perform their contracting work. This additional guidance would be helpful to agencies and would send a clear message to agency human resources and procurement staff that CORs are critical to effective contract management.

Summary

Contracting is a complicated endeavor and the Government's ability to achieve positive results from its contracts requires careful coordination among a large number of participants. When CORs can perform their contracting duties more effectively, contract outcomes are improved, thus meeting the public's interest in getting a good return on the money spent on contracting.

Table 8 contains a crosswalk of MSPB's recommendations and the individuals or groups we believe should be involved in implementing them. We provide this crosswalk to ensure that the appropriate people and groups are aware of the parts they can or should play in helping CORs do their contracting work more effectively. For example, the table makes clear that COR supervisors bear considerable responsibility for managing CORs more effectively. Not only are supervisors involved in all the regulatory and day-to-day aspects of managing CORs, they also need to be aware of the potential impact of the other employees CORs work with in doing their contracting work.

Overall, contract success depends on all involved participants doing everything they can to carry out their duties effectively and efficiently. While CORs, agencies, or policymakers can produce benefits by acting on the recommendations within their control, the greatest improvements will require all parties to work together to improve the ability of CORs to effectively perform their contracting duties.

Table 8.
Who should be involved in implementing recommendations to improve COR management

Recommendation	CORs	COR Supervisors	COs	Program Managers	Senior Agency HR Managers*	Senior Agency Procurement Managers**	Government-wide Policymakers***
Formally delegate authority to the COR		✓	✓	✓		✓	✓
Ensure CORs get the training they need in the right way	✓	✓	✓	✓	✓	✓	✓
Identify CORs and manage them strategically				✓	✓	✓	✓
Recognize CORs as a critical workforce				✓	✓	✓	✓
Select and assign CORs based on established criteria		✓	✓	✓		✓	✓
Ensure CORs start early in the contracting process	✓	✓	✓	✓		✓	✓
Assign CORs the appropriate contracting tasks	✓	✓	✓	✓		✓	✓
Ensure CORs have enough time for contracting work		✓		✓			
Rate CORs on the performance of their contracting work		✓	✓	✓			
Consider the other Federal employees who affect the COR's work		✓	✓	✓		✓	

* Including chief human capital officers and human resources directors.

** Including chief acquisition officers, senior procurement executives and others, such as acquisition career managers.

*** Including OMB/OFPP, FAI, the Defense Acquisition University, the Chief Acquisition Officer's Council, Chief Human Capital Officers Council, OPM, and other appropriate groups.

Appendix A: Study Methodology

We specifically selected agencies to participate in our study that had the most total dollars spent on contracts and/or had the most contracting actions—for contracts above \$25,000.³⁹ Being able to identify CORs and locate them for the purpose of our survey was a difficult process. Unlike contracting officers and contracting specialists, who are usually identifiable by their occupational series (GS-1102 through GS-1105), CORs are not identifiable by a specific occupational series. Therefore, we could not use human resources (HR) records or HR data sets, such as the CPDF, to identify the CORs for our survey.

Many of the agencies we worked with in our study had difficulty identifying their CORs, and when they could identify them, agencies could not easily determine where the CORs were located, nor how to contact them. Some agencies had lists of employees who had received COR training, and some agencies had lists of employees who were currently or had been CORs on a specific contract. Many agencies reported that they could only obtain a list of individual CORs by going through paper files, by hand, for each agency contract.

We worked with agencies individually to obtain COR names and addresses through whatever means were available. Through these efforts, we obtained 14,163 names of employees from which we selected a random sample of 5,285 possible CORs. We were able to obtain addresses for and distribute surveys to 4,895 employees. Of the 4,895 surveys distributed, 138 were returned as undeliverable, resulting in 4,757 delivered surveys. We received completed surveys from 1,707 people—a 36 percent response rate. Of the 1,707 individuals who returned surveys, 1,426 reported having experience in Federal contracting, and were not contracting officers. We reported data for these 1,426 CORs in this report.

³⁹ We used the Federal Procurement Data System (FPDS), for Fiscal Year 2000, maintained by the Federal Acquisition Institute, Washington, DC.

Appendix A: Survey Methodology

The agencies that participated in our survey are listed in Table 9. Approximately two-thirds of Federal contracting dollars and actions are carried out in the Department of Defense (DoD), and the remaining one-third in select civilian agencies.⁴⁰ The responses to our survey were comparable to these proportions, with 65 percent of our respondents reporting they were from DoD and 35 percent from civilian agencies.

We also conducted several focus group sessions with contracting professionals and experienced CORs in various locations to solicit topics to be covered in our survey and to obtain feedback on drafts of the survey. Prior to being administered in early 2003, the survey was tested for clarity and timing.

Table 9.
Contracting data for Agencies participating in our COR survey

Department or Agency	Total Dollars (000)	Government-wide % and (Rank)	Number of Actions	Government-wide % and (Rank)
Defense	132,099,835	64.9% (1)	304,523	58.6% (1)
Energy	16,880,859	8.3% (2)	5,634	1.1% (12)
Environmental Protection Agency	875,302	.4% (18)	5,082	1.0% (13)
General Services Administration	10,310,911	5.1% (4)	47,562	9.2% (2)
Health and Human Services	3,947,167	1.9% (6)	11,375	2.2% (8)
National Aeronautics and Space Administration	10,912,591	5.4% (3)	11,336	2.2% (9)
State	1,232,962	.6% (14)	4,467	.9% (14)
Transportation	1,800,044	.9% (11)	14,120	2.7% (6)
Treasury	2,713,749	1.3% (10)	9,824	1.9% (10)
Veterans Affairs	3,880,021	1.9% (7)	21,169	4.1% (4)
Total for our study	184,653,441	91%	435,092	84%

These data were obtained from the Federal Procurement Data System for FY 2000.

⁴⁰ The Department of the Air Force did not participate in our study. However, their contract data are included in, and cannot be separated from, the DoD data used in these Governmentwide calculations.

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