

Agents or Stewards? Exploring How Perception Influences the Relationship and
Performance between the Government and Research Contractors at DOE Federal
Laboratories

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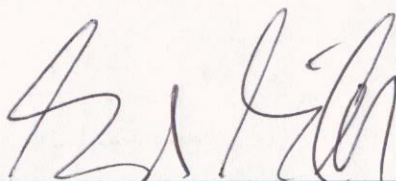
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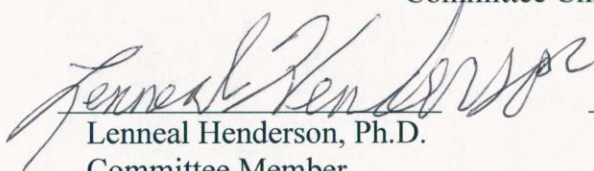
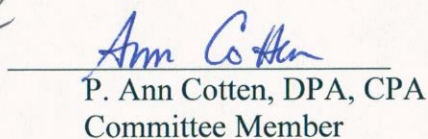
Doctor of Public Administration

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DEDICATION

To all of the DOE personnel and the national laboratories under the DOE Office of Science contractor personnel who operate these national laboratories performing high-level research in numerous scientific disciplines with integrity.

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ABSTRACT

**Agents or Stewards? Exploring How Perception Influences
the Relationship and Performance between the Government
and Research Contractors at DOE Federal Laboratories**

Claudia E. Haywood

Public managers face the challenge of the continued need to outsource public services to contractors while managing the contractors in a manner that ensures achievement of the contract goals and objectives and the agency's mission. These contractual relationships are based upon principal-agency theory, where the government serves as the principal and the contractor is the agent. Using agency and stewardship theories as the theoretical framework, this research explores how the perceptions of the government and the contractor influence the contractual relationship and performance management. Using the DOE Office of Science federal laboratories, this research utilizes qualitative approaches to explore the government contractor relationship for the purposes of gaining a greater understanding of how the perceptions of individuals in leadership roles for both the government and the contractor influence the contractual relationship. The findings suggest that the relationship is perceived and recognized to exist at a high level as agency but can vacillate in various aspects between degrees of agency and stewardship. By exploring the actual perceptions and experiences of these individuals, information can be gained about how to effectively manage the relationship. This information can be utilized by public managers to establish performance management

systems that are likely to achieve agency goals and objectives and provide better contractor performance.

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CHAPTER I

INTRODUCTION

The traditional role of government, at all levels, in providing essential public goods and services has changed during the past seventy-five years. The government's role has evolved from the provider of public services directly to its citizens to contract manager, using staff to manage numerous providers of public goods and services through outsourcing (Lambright, 2008). Outsourcing of essential public goods and services is one way that public agencies can reduce the size and overall cost of government (Brown, 2006). It has also created a new third-party "quasi" governmental entity that consists of contractors, also referred to as the "hollow-state" (Milward & Provan, 2000). With outsourcing, the role of public managers has shifted from managing their own internal budgets and responsibilities in providing services to ensuring that the contractors are adequately monitored. Based upon this shift, contract management and performance oversight is considered one of the greatest challenges facing public administrators in the future (Lambright, 2008). It is becoming more imperative on a daily basis that public administrators develop strategies that maximize contractor performance to achieve agency goals and objectives.

Background of the Study

Government contracts, like many other types of service contracts, are primarily based upon "principal-agency" theory. In government contracts, the government agency serves in the role as the principal, seeking to obtain services or goods from a selected

contractor. The contractor, in contrast, acts as the agent acting on behalf of the government in providing the services to the public or in providing goods to the agency or to the public. This relationship is established formally through written contracts, negotiated at arms-length, that are often fairly voluminous in their terms and conditions, establishing the principal's goals, objectives and expectations. Such contracts may also incorporate specific performance measures or methods that the government will utilize for assessing contractor performance.

With the outsourcing process and each contract, there are also transactional costs, particularly where the government must safeguard against the hazards of opportunism, including the contractor's ability to use information to the contractor's advantage (Dyer, 1997). Such transactional costs include the costs of planning for the acquisition by the government program and acquisition office, searching for the contractor, establishing the contractual relationship, monitoring the contractor and enforcement of the contract terms and conditions. Upon the execution of the contract, the relationship between the government and the contractor enters into a new phase, where oversight and accountability become critically important. It is far more complex throughout its lifespan than the contract itself and any system utilized by the government for managing contractor performance. With this complexity, it is important to understand the potential factors that impact the relationship between the government and the contractor and how the factors influence the levels of stewardship and agency that exist in the relationship.

Overview of Federal Laboratories and the Department of Energy (DOE)

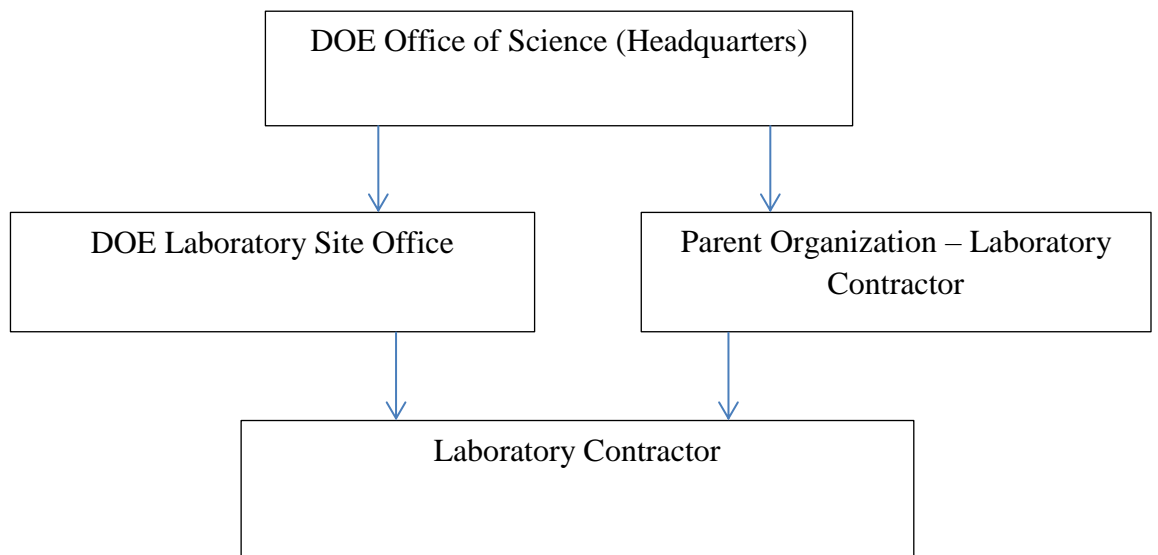
In order to understand the significance of this study and its context, it is important to understand the role of federal laboratories within the DOE system and the contracting process used to procure services for the operation of the federal laboratories. The Department of Energy (DOE), like many federal agencies such as the Food and Drug Administration (FDA) and the National Institutes of Health (NIH), has “research” as a component of its mission and its annual appropriations. However, the DOE, unlike agencies such as the NIH, does not conduct the vast majority of its research activities as an intramural activity. Instead, the DOE outsources its mission-driven research activities to federal laboratory contractors. The federal laboratories, established more than sixty years ago, are a unique, quasi-governmental entity that possesses many of the characteristics and qualities of both governmental and non-governmental organizations (Kosar, 2011). The DOE federal laboratory system was established to perform specific research related tasks and activities that would not be performed by the DOE (PSC, 2012). This effort to establish federal laboratories was the result of a World War II effort to meet a federal need by using private organizations (Moe, 2001).

The DOE’s contracting of its research activities in the establishment of the current federal laboratory system constitutes a major government outsourcing effort. These laboratories operate in the public interest by assisting the government in establishing core competences and valuable capabilities (Carter, 2011).

Government-Contractor Relationship. The DOE Office of Science (SC) national laboratories are Federally Funded Research and Development Centers (FFRDCs) and are operated by private sector organizations (academic, for-profit, non-profit) under Management and Operations (M&O) contracts. In order to fully

understand the nature of the government-contractor relationship in the national laboratory context and often in the operation of FFRDCs, it is important to understand the various parties involved in the relationship. The following simple graphic illustrates the relationship:

Figure 1 - Government Contractor Relationship - DOE Office of Science Laboratories



For the government, the DOE Office of Science is charged with the oversight of the ten federal laboratories within its purview. The DOE Office of Science (OSC) is located in Washington, DC and in its role in providing oversight, it establishes policy, administers the annual evaluation program called the PEMP and described later, provides for laboratory strategic planning and ensures that the laboratories comply with

applicable statutory and regulatory requirements as well as the requirements of the M&O contract. In addition to the DOE Office of Science, the DOE maintains a local site office (Site Office) for each laboratory. These local Site Offices represent the government's interest at each laboratory and are a local source for oversight and decision making. Information, including policy decisions and the evaluation of the laboratory, often flow through the DOE local Site Office to the national laboratory contractor and to its parent who actually executes the contract for operating the laboratory. On the contractor's side, each federal laboratory is operated as a standalone organization, generally established legally as a separate entity, by a parent organization under contract with the DOE.

Management and Operating (M&O) Contract. The DOE Office of Science has utilized the M&O to operate the national laboratories for more than fifty years. Developed as a contracting mechanism under the Atomic Energy Act of 1946, the legislative intent with the M&O contract was to allow the agency to utilize a contracting mechanism that provided the necessary flexibility in operating the Government-owned laboratory but continue "to gain the full advantage of the skill and experience of American industry" (Atomic Energy Act of 1946). The relationship and the use of the M&O Contract are described as follows by the DOE:

"The unique M&O contract relationship enables the Government to establish objectives for the laboratories' research programs and to exercise controls necessary to assure security, safety, and the prudent use of public funds, while allowing private sector organizations selected for the technical ability and managerial expertise to carry out the laboratories' day-to-day operations. M&O contracts are characterized by their special purpose and the close relationship they create between the Department of Energy (DOE) and the contractor. The work performed under M&O contracts is intimately related to DOE's mission, is of a long-term and continuing nature, and

among other things, includes special requirements for work direction, safety, security, cost controls and site management.” (PPPL website - <http://www.pppl.gov/about/doe-and-fusion-links/contract-documents/mo>)

As a part of the M&O Contract, the contractual relationship relies upon Contractor Assurance System (CAS), which includes a plan prepared by the Contractor (“Contractor Assurance Plan”), executed by the Contractor, approved by the DOE and implemented throughout the laboratory. The purpose of the Contractor Assurance System (CAS) is “to provide reasonable assurance that the objectives of the contractor management systems are being accomplished and that the systems and controls will be effective and efficient” (48 CFR Part 970.0370-1). The CAS requirements include the following key attributes:

- (1) A comprehensive description of the assurance system with processes, key activities, and accountabilities clearly identified.
- (2) A method for verifying/ensuring effective assurance system processes. Third party audits, peer reviews, independent assessments, and external certification (such as VPP and ISO 9001 or ISO 14001) may be used.
- (3) Timely notification to the Contracting Officer of significant assurance system changes prior to the changes.
- (4) Rigorous, risk-based, credible self-assessments, and feedback and improvement activities, including utilization of nationally recognized experts, and other independent reviews to assess and improve the Contractor's work process and to carry out independent risk and vulnerability studies.
- (5) Identification and correction of negative performance/compliance trends before they become significant issues.
- (6) Integration of the assurance system with other management systems including Integrated Safety Management.
- (7) Metrics and targets to assess performance, including benchmarking of key functional areas with other DOE contractors, industry and research institutions. Assure development of metrics and targets that result in efficient and cost effective performance.
- (8) Continuous feedback and performance improvement.

- (9) An implementation plan (if needed) that considers and mitigates risks.
- (10) Timely and appropriate communication to the Contracting Officer, including electronic access, of assurance related information.

(Source: 48 Code of Federal Regulations § 970.0370, Management Controls and Improvements.)

Of significant note in the M&O contract, is the ability of the government to change or alternate its level of oversight of the laboratory based upon a failure of the Contractor Assurance System (CAS) to operate efficiently. This can include increasing the level of oversight to meet objectives. The CAS has been integrated into the contract itself and the performance management of the contractor to identify key expectations and required areas of alignment between the DOE and its contractors (<http://science.energy.gov/sc-3/oversight/contractor-assurance-systems/>). This allows interaction between the government and the parent that will facilitate performance measurement and areas of required performance improvement while providing feedback and a level of transparency to the contractor.

Role of Laboratory Planning. A key element of the oversight of the DOE Office of Science laboratories is the Laboratory Planning process. Led by the DOE Office of Science, the laboratory leadership works closely with the DOE to engage in annual strategic planning activities. The intent of the planning process is “to define, an exciting, yet realistic, long-range vision for the future” of the laboratory (DOE, 2014). As a part of the planning process, the discussions with the contractor range from future direction of the laboratory, immediate and long range perceived challenges the contractor may face and identified resources needed by the contractor for the operation of the laboratory. For the government, this is envisioned as an opportunity to engage the laboratory contractor

leadership in ideas about developing the laboratory and developing a shared understanding of how the proposed plans fit with the government's priorities and goals. These plans are designed to be ten-year plans in duration and include a forward-looking planning process that includes input from the contractor.

Performance Evaluation and Management Program (PEMP). Just as federal agencies are expected to be accountable for their activities as a result of such mandates as Government Performance and Results Act (GPRA) and National Performance Review (NPR), the same applies to contractors and even more so, to federal laboratories based upon the substantial investment made in the federal laboratory by the DOE. The investment of federal funding in support of federal laboratory activities is considerable and mandates that oversight agencies such as the DOE, develop and maintain systems for contractor oversight and performance management systems.

In response to this mandate, the DOE Office of Science in addition to its planning process, has developed an extensive annual appraisal process to evaluate the scientific, technological, managerial and operational performance of the contractors and organizations that manage and operate the ten (10) DOE National laboratories. The current evaluation process is called the Performance Evaluation and Management Program or PEMP and is “designed to improve the transparency of the process, to raise the level of involvement by the DOE Office of Science leadership, to increase consistency in the way the labs are evaluated, and to move effectively to incentivize contractor performance by tying performance to fee earned, contract length and the public release of grades” (DOE, 2013). Under the DOE's PEMP, all ten laboratories are graded based upon a common structure and scoring mechanism. The evaluation process is designed to be

objective and is a mandatory part of the contract. It includes input from stakeholders who provide funding at the individual laboratory and by the local site office. The DOE Office of Science Headquarters in Washington also weighs in on major scientific goals and objectives. The PEMP system is touted as a model system designed to provide incentives and sanctions to motivate contractor performance by earning performance to a fee earned, the extension of the contract itself and the public recognition of high scores or “grades” (DOE, 2013). An overview of the DOE Federal Laboratory Performance Measurement Program is provided in Appendix B. This program has been in existence at the DOE since 2006 and the DOE Office of Science is tasked with its implementation, management of the evaluation process and oversight.

DOE’s PEMP as a Performance Management Tool

In evaluating the DOE’s PEMP system, it notably contains many of the key requirements for a performance management system as discussed in the literature. This includes the establishment of clear goals and objectives and “the regular and careful monitoring of program activities, implementation and outcomes” (de Lancer Julnes, 2009, p. 4). The system itself should be capable of producing “timely, reliable and relevant information that is linked to specific programs, goals and objectives” (de Lancer Julnes, 2009, p. 4). This information is utilized by the agency in assessing contractor performance in meeting the goals and objectives and by the contractor to improve performance. Despite the existence of these elements in the DOE’s PEMP system, some contractors fail in meeting the established performance objectives or receive less than favorable scores. Within the PEMP system, this means a score of “B” or below and

can result in reduced award fees to the contractor. Additionally, this results in increased oversight costs by the DOE and the potential for costly re-competing of the contract.

Purpose of the Research

Despite rigorous performance management systems such as the DOE's PEMP, contractors do fail in meeting performance expectations. Thus, the failure to meet stated objectives after considerable oversight suggests that other factors may have implications in the contractual relationship and also have an influence on the contractor's performance. The purpose of this research study is to explore these other factors through the nature of the government-contractor relationship and gain a greater insight into how the perceptions of the contractual relationship influences contractor performance. This includes how the contractor's behavior and actions, including the interactions with the government, influence their ability to meet established goals and objectives. Specifically, using qualitative approaches, the DOE's Performance Evaluation and Management Program (PEMP) and the DOE National laboratories that are under the direction of the DOE Office of Science (OSc) as the context, this research expands upon the understanding of how specific relationship factors influence the complex nature of the government-contractor relationship and how this impacts performance under the contract. This information may provide useful insight to public managers in developing contractual relationship, managing contractual relationships and developing performance management systems.

Contractor performance management systems are tools that public contract managers can use to link the contractor's performance with the agency's mission, goals

and objectives, provide adequate monitoring and feedback, and to motivate and incentivize contractor performance, e.g. award-fee, incentive fee. Additionally, information obtained from performance management systems can be utilized by public administrators to assess how well the contractor is meeting established goals and objectives as outlined in the contract and for making future contracting decisions (Lambright, 2008). Finally, a well-designed contractor performance management system can provide meaningful performance measurement information to government contractors that can be utilized by the contractor to improve their own performance and to ensure the likelihood of receipt by the contractor of future government contracts.

The challenge in providing adequate contractor oversight and developing a performance management system in the government contracting context is to understand the highly complex nature of the relationship between the government agency and the contractor and how best to balance the need for performance management with relational contracting. Any performance management system must have several key elements including well-written contracts that provide an adequate description of the contract's goals and objectives, reflecting agency goals and objectives. In addition, the performance management system must have a "balance of rewards and sanctions and of formal and informal ways to distribute them when expectations are not met" (de Lancer Julnes, 2012, p. 616). The performance management system must motivate and incentivize the contractor's performance in order to ensure contractor compliance and ultimately goal and objective attainment in order to gain value for the public agency from the outsourcing process.

While contractor performance management systems provide a structure for accountability and providing performance feedback to the contractor on contractor activities, government contractors still often fail to perform adequately despite such systems being in place. This may be an indicator that other factors influence the government-contractor relationship and possibly influence the outcome of the performance management process. This may include the underlying nature of the relationship itself, the interactions between the parties and how both the public manager and the government contractor perceive the relationship.

Problem Statement

In the public sector, outsourcing through government contracting is a significant activity for public managers and designing performance management systems that provide accountability can be a challenge. The increase in outsourcing activities has highlighted significant shortfalls in the government's oversight and contract-management procedures (Voelz, 2010). For example, recent major government outsourcing activities, such as the development of the Affordable Care Act enrollment website, have highlighted some of the problems and risks for public managers when providing contractor oversight and in monitoring contractor performance to ensure accountability. It has also placed a public spotlight on the need to ensure accountability in government contracting activities. These types of well publicized contracting debacles draw considerable attention to how agencies monitor contractor performance to ensure that agency goals, objectives and expectations are met. Therefore, it has become an imperative that public administrators understand the nature of the government contractor relationship, structure the relationship in ways to ensure contracting

deliverables are met and develop and utilize contractor performance management systems to adequately ensure contractor accountability.

As noted previously and discussed in literature review, in the government outsourcing process, contractors are considered “agents” acting on behalf of the government agency in a “principal-agent” relationship. As such, agency theory has been extensively utilized as a theoretical framework for public administration researchers in studying this complex relationship (Eisenhardt, 1989; Romzek and Johnston, 2005; Jensen and Meckling, 1976; Kettl, 1993; Coats, 2002; Van Slyke, 2007). Just as agency theory in general assumes that agents will act to maximize their own interests in the principal-agent relationship (Eisenhardt, 1989; Davis, Schoorman and Donaldson, 1997), contractors performing services on behalf of the government are also assumed to engage in similar self-serving activities. In addition, because of information asymmetry, agents may take advantage of the imbalance in the relationship to meet their own goals and objectives which may differ from those of the principal (Eisenhardt, 1989).

Self-serving behaviors and the information asymmetry on the part of the contractor create a problematic imbalance in the contracting relationship leading to goal divergence from the principal’s objectives and a moral hazard. To offset the impact of this imbalance in the relationship, the government must monitor the contractor’s behavior and activities closely. In addition, the contract itself may contain incentives and sanctions for inadequate performance. As a result of these behaviors which arise in an agency relationship, the government must make resources available and incur the additional expense associated with monitoring closely the contractor’s performance to

ensure the goals and objectives are met. This additional expense may offset any potential monetary gains the government might recognize from the outsourcing process.

Research Gap

The importance of understanding the complex nature of the government-contractor relationship is critical to outsourcing success. Research conducted thus far has shed some limited light on the complex nature of the relationship, evaluating whether such relationships exist based upon agency theory versus stewardship theory. The research to date has suggested that the two theories are incompatible and that one often exists to the exclusion of the other. However, more research is needed to understand the complex nature of this relationship and specifically, a greater understanding of how the perception of agent versus steward influences performance, from both the government manager's perspective and the contractor's perspective may have significant implications for public managers. The costs of contracting can vary from the transactional costs in establishing the contract to the implicit costs of re-competing contracts after failed performance. Depending on the funding to be awarded in the contract, these costs can be extensive.

With the increasing trend in external oversight of contractors by agency personnel through the use of performance accountability systems, public managers tasked with design and implementation must consider how the relationship between the government and the contractor impacts performance. In addition, public managers must balance incentives and rewards with sanctions for failure to adequately perform.

Creative strategies are particularly necessary when the contract value is high, such as the case of federal laboratory contracting.

Therefore, this research study is significant in the field of public administration for two reasons. First, the continued reliance on third party contractors in providing what has traditionally been viewed as public services is a growing trend. This action, often described in the public administration literature as third-party government, the hollow state and the state of agents is an ongoing challenge for public administrators at all levels (Dubnick & Frederickson, 2009). While contractors can often provide the goods or services at a lower cost, the transaction itself is not without costs to government beyond just the acquisition cost. The need to streamline and reduce the size of government, to reduce operational expense and encourage efficiency suggests that this trend will likely continue into the future. Therefore, outsourcing of government services will continue to be a viable option for public managers.

Second, as outsourcing continues as a trend, government agencies will be increasingly mandated to ensure that contractors are held accountable for their activities in the furtherance of the contracting objective. Performance management systems are key to meeting this mandate as they are important tools for ensuring contractor accountability, particularly when government agencies lack adequate resources to monitor contractor performance themselves (Kettl, 2000; Van Slyke, 2007). For public managers in contracting, the inability to provide adequate oversight of performance is one of the greatest disadvantages for public agencies in the contracting out (Van Slyke, 2007). Therefore, having an adequate performance management system in place to monitor contractor performance will be an important element to successful outsourcing

for government services. This research will seek to provide additional insights to public managers about how to structure both contractual relationships and contractual performance management and accountability systems to achieve better performance results.

The section that follows provides additional information about the research objectives for this study including the research questions that are posed in the research. These research objectives are periodically restated in the Methodology Chapter (Chapter III), the Results Chapter (Chapter IV) and the Analysis and Discussion (Chapter V). This restatement will allow the reader to periodically reflect on the nature of the questions and the overarching research objectives in understanding the results and the analysis.

Research Objectives

The central research question of this study is, “How does the perception of the relationship between the government and the contractor, as agent or steward, influence the government-contractor relationship and ultimately the contractor’s performance?” To further shed light on the problem, the following research sub-questions are studied:

1. To what extent do the parties perceive that information is shared in the government-contractor relationship?
2. To what extent do the parties perceive the level of trust that exists in the relationship?
3. What factors do the parties perceive motivate the contractor’s performance?

4. How do the parties perceive that the relationship has evolved since the beginning of the current contract period?

Organizations consist collectively of the actions and behaviors of the individuals within the organizations. These actions often translate into organization culture and the organizational leadership style. The perceptions of individuals within leadership roles play a key role in organizational activity. The answers to the research questions posed here may provide insights into how perceptions shape the behaviors and actions of contractors, specifically in compliance with contractual goals and objectives and ultimately in performance outcomes. Likewise, the perceptions of the government personnel are critical to the contracting relationship and the design and oversight of accountability systems. In designing systems for monitoring and measuring performance, performance management systems that encourage stewardship behaviors rather than agency behaviors may likely to improve contractor performance over performance management systems that employ the traditional contract related rewards and sanctions.

The following section reviews the literature on agency and stewardship theories and how researchers have found these theories impact the contracting relationship. As discussed, research thus far has found that the theories are at times both competing and incompatible with agency theory receiving considerable criticism in the public administration literature. In addition to discussing agency and stewardship theories, the literature review that follows will discuss the relevant research into relational contracting, a new and burgeoning area of public contracting which begins to evaluate

the importance of the contracting relationship. Finally, at the end of the chapter, an overview of the theoretical lens and research methodology for this study is presented.

CHAPTER II

LITERATURE REVIEW

Introduction

Effective contractor oversight is often viewed as an arduous and difficult task, complicated not only by highly legalistic contract terms and conditions but the complex nature of the relationship as well. The contract itself, while serving as foundation for the relationship, can only serve to encourage the contractor to act in the best interest of the government (Coats, 2002). An understanding of various aspects of the relationship between the contractor and the government is also important. Effective oversight of the contractor includes performance management systems that give adequate consideration of relational contracting and with measurable performance standards and critical feedback (Apaza, 2008). In addition, contracting out is not without costs, including the transactional costs which factor into not only the decision to outsource and establish a contract, but also in the total costs of the contractual relationship. When contractor performance is low, additional transaction costs are incurred and include high levels of contractor monitoring and oversight.

The following section reviews the literature as it relates to the government – contractor relationship including agency and stewardship theories, transaction cost-economic theory and how these theories influence the government-contractor relationship. The important theories in relational contracting which impact contracting in this context will also be discussed. Additionally, this section will include a review of the relevant literature on contractor oversight and accountability. Finally, this section will conclude with a summary of the theoretical framework for this research.

Agency and Stewardship Theories

Agency Theory. Agency theory and stewardship theory are two theories often used to explain contractor behavior in the public administration literature. These theories are often debated in the literature as both competing and complementary theories (Bundt, 2000; Donaldson and Davis, 1991; Davis, Schoorman and Donaldson, 1997; Van Slyke, 2007; Dicke and Ott, 2002). Under government contracts, a principal-agent relationship is established, where the government serves in the role as principal and the contractor is the agent and, thus, agency theory can be used to help understand the relationship and interaction between the two. Agency theory, also called “the principal-agent model” in the literature, has been studied extensively in the economics, management and organizational behavior literature in a number of different contexts. In general, “as a theory, the focus [in agency theory] is on accountability by correcting for opportunistic behavior that can result from exploiting asymmetric information” (Van Slyke, 2007, p. 162). Under this theory, the principal chooses to enter into a contract with the agent for various reasons, among them the agent’s expertise in the particular subject matter and the potential costs (or cost savings). Terms and conditions are agreed upon in the contract and generally include the inputs provided, processes to be utilized, compensation, performance standards and what monitoring of performance will occur (Van Slyke, 2007). The contract may also include incentives that encourage or motivate the agent or penalties or sanctions that will occur for failure to comply with the performance standards.

The primary tenets of agency theory focus on “information asymmetry” (when the agent has more information than the principal), “pre-contractual opportunism” (the

agent knows more about the service being provided than the principal and as such the risk of receiving services of reduced quality are high), or “post contractual opportunism” (when the agent uses the information available to engage in self-interested behaviors) (Van Slyke, 2007). In addition to these tenets, the relationship of the principal and agent is often characterized by two key assumptions: (1) since there is an imbalance in power in the relationship, there is goal conflict; and (2) since there is more information available to the agent than the principal, the agent can exploit the information for self-gain rather than acting in the collective interests of the principal, leading to what has been characterized as “moral hazard problems” (Van Slyke, 2007).

In the literature, a number of researchers have provided useful insights into the origin and utility of agency theory as applied to the contracting process. For example, Eisenhardt (1989) provided a fundamental assessment and overview of agency theory, evaluating its premises and contributions to organizational theory. According to Eisenhardt (1989), two problems exist with agency theory. The first problem identified is the “goal conflict,” when the desires of the principal and agent are in conflict. The second problem is the difficulty that the principal has in actually verifying what activities the agent is engaged in, specifically whether the agent’s behavior is appropriate under the contract (Eisenhardt, 1989). Important in Eisenhardt’s work is the introduction of agency contracting problems, including the “moral hazard and adverse selection” inherent in agency, the concept of risk sharing between the principal and the agent and basic human assumptions such as “self-interest, bounded rationality, and risk aversion” (Eisenhardt, 1989). Eisenhardt’s work also provides a summary of agency

theory research that has occurred and encourages future research to explore additional contexts for applying agency theory and broader spectrum of contracts.

Similar to Eisenhardt's work, Shapiro (2005) reviewed the concept of "agency theory" from the social sciences perspective and provided a detailed analysis of how "agency theory" impacts various roles, institutions and organizations. Principals, according to Shapiro (2005), select their agents based upon their expertise and thus delegate to the agent, the authority to act on their behalf and their preferences. Using the context of her own authorship of peer-reviewed manuscripts, Shapiro (2005) discusses the specific characteristics of the agency relationship. This includes the existence of an informational asymmetry and potential goal conflicts between the principal and the agent that are fundamental in the relationship (Shapiro, 2005). To bridge the gap between the agent's possession of more information than the principal, the principal will utilize tools such as "monitoring" of the agent to obtain information. Additionally, Shapiro (2005) points out that the principal will provide incentives to the agent to ensure goal alignment. Such tools as "incentives, monitoring devices, bonding and other forms of social control [in agency relationships] are undertaken to minimize agency costs" that are inherent in the agency relationship (Shapiro, 2005).

Important to the principal-agent relationship in the underlying contract are the incentives that motivate the agent's behavior. In this aspect of the literature, Sappington (1991) sought to evaluate the role of incentives and factors that motivate the agent in the principal-agent relationship. Using a model termed "simple agency", Sappington (1991) established the general characteristics that exist in the principal-agent relationship, including information asymmetry. In addition, Sappington (1991) noted

that inherent in the relationship, there are frictions that exist (e.g. the agent is a utility maximizer with potential goal conflicts) and that monitoring of the agent through direct observation may be helpful in motivating the agent. The analysis found that the optimal way to achieve contracting outcomes in the principal-agent relationship was through a “sharing contract” as it induces the agent to tailor their behaviors and contracting efforts to the contracting environment (Sappington, 1991). This “sharing contract” is described as a contract where the risks and the benefits are shared between the principal and agent, and specifically, the agent receives the benefit of having more information available for activities and is more likely to truthfully report information and outcomes to the principal. As such, the principal can adequately and appropriately design incentives into the contract (Sappington, 1991).

In addition to other incentives, monitoring of the agent’s activities is not without challenges, particularly if the monitors are considered “self-interested actors” such as other agents or contractors with whom the government for example has a relationship. Sappington suggests that by involving multiple-agents, some benefits can accrue to the principal because of the influence one agent may have over another agent’s behavior (Sappington, 1991). Of critical importance are the assertions Sappington (1991) makes about the dynamics of the principal-agent relationship. Sappington (1991) asserts that when the relationship is ongoing and likely to continue based upon adequate performance, the agent may be influenced by the possible continued performance. This point of potential longevity in the relationship is critical in understanding factors that motivate performance in this research and how perceptions of agency versus stewardship impact performance.

In specifically analyzing government research contracting, Coats (2002) surveyed principal-agent models in government contracting. The approach in this survey, while acknowledged as general and theoretical, sought to provide some insights into the complexity of the government outsourcing decision. Research and development contracting is recognized as the “quintessential principal-agent problem” since the work is inherently risky and contract type and content are important (Coats, 2002). Uncertainty in outcomes and deliverables requires the government, as the principal, to write a contract with a level of specificity that holds the agent accountable for costs. This is accomplished by establishing long-term contracting relationships and relational contracts, where good faith and “trust” as well as autonomy are important in the contracting relationship (Coats, 2002). This finding supports the earlier work of Ott & Dicke (2000) that suggests that when the agent’s ethical and moral values/standards are similar to those of the government, more formal systems of monitoring for achieving accountability in contracting are not needed. Thus, from this research, agents are more likely to be internally motivated by the care intended for its clients, at least in the context of human service providers.

Stewardship Theory. Stewardship theory provides a contrasting view of the government-contractor relationship to that asserted by agency theory. Fundamentally, stewardship theory suggests that internal accountability controls, derived from individual attitudes, beliefs and altruistic behaviors of the agent, are better options for ensuring contractor accountability. These internal accountability controls are the result of the steward’s (contractor’s) internal sense of responsibility from intrinsic motivational factors. This results in a contractual relationship where trust is built between the

contracting parties through mutual cooperation and building upon shared values and beliefs with optimal goal alignment and performance (Dicke, 2002).

Davis, Schoorman & Donaldson (1997) in a research study, made three contributions to previous stewardship research. First, the researchers provided a much more detailed description of stewardship theory than previously provided in earlier research. Second, the research explored the psychological and situational mechanisms that motivated stewards to behave pro-organizationally (Davis, Schoorman & Donaldson, 1997). Understanding these mechanisms is important to understanding how the relationship evolves and how certain factors influence stewardship behavior. Finally, the researchers distinguish their analysis over their prior colleagues in the field, challenging prior research that agency theory as a theoretical framework is neither “right or wrong” (Davis, Schoorman & Donaldson, 1997). Instead, their research suggested that it provides conditions that support either agency or stewardship in the contracting relationship.

Similar to other researchers, Dicke (2002) explored how stewardship theory might improve accountability in human services contracting. Building on her earlier studies, Dicke (2002), using a qualitative mixed methods case study approach and data from earlier studies, assessed the utility of external controls based on principal-agent theories and those based upon stewardship theories in community based residential service contracting. In this research context, Dicke (2002) acknowledged that the goals and objectives of the principal are not likely to be achieved unless the contract contains inducements to perform such as sanctions, rewards or threats. As a part of this analysis, Dicke (2002) focused on interviewing key stakeholders in the process including

government employees (case managers) as well as contracted providers, including program managers and direct care givers (aides). The interview and survey questions utilized in the study sought to evaluate how individual and organizational values impacted the methods used to ensure accountability under the contract. One aspect not previously explored in earlier studies is the role of service quality provided. The government employees, for example, were asked about the types of quality review procedures utilized for contracted services and service qualities.

The findings suggest that external control and accountability methods, traditionally suggested under agency theory, have a number of limitations, including the potential for false and inaccurate documentation of performance, inadequate performance measurement, an unwillingness of the principal to sanction the agent for poor performance when necessary and inadequate resources being devoted by the principal to the contract to provide for effective performance monitoring (Dicke, 2002). Instead, following principles more closely aligned with stewardship theory, Dicke (2002) found that higher levels of quality were the result of more altruistic behaviors and the attitudes of individual staff members. Such attitudes included concerns by the contractor for the client base which was found to outweigh concerns by the contractor for profits achieved under the contract. Finally, trust in the relationship was important as well. Despite the presence of established external control methods, Dicke concluded that “trust is a condition that cannot be ensured by external control methods” (Dicke, 2002, p. 467). Therefore, more information about how trust is achieved in the relationship to ensure that trust exists at sufficient levels between the principal and steward.

Agency and Stewardship as Competing Theories. Exploring the contrasts between agency theory and stewardship theory, a number of studies have evaluated how agency and stewardship theories impact public service contracting. For example, Van Slyke (2007) conducted a study seeking to understand and gain insights into how public managers handle various aspects of contracting relationships with non-profit organizations providing social services in New York State. In this qualitative study of government managers and non-profit contractors, factors, such as trust, reputation and the type of monitoring of the contractor were identified as impacting the contracting relationship. While three questions relevant to the contracting relationship were asked, specifically of interest is the question that seeks to determine to what extent that management practices that are found to be utilized by public managers in the relationship with nonprofit contractors are based upon agency and stewardship theories. Van Slyke (2007) found that while the relationship begins as a “principal-agent” relationship by virtue of the contracting relationship itself, it evolves over time into a “principal-steward” relationship, in part because of increasing levels of trust between the government and the contractor. Where the contractor is perceived as a “trusted partner,” less monitoring is required by the government of the contractor.

Additionally, Van Slyke (2007) found that the “lack of financial incentives and inconsistent use of monitoring identified in the study is incongruous with agency theory” (Van Slyke, 2007, p. 182) and that in part, the relationship is only explained in part by both agency theory and stewardship theory. Van Slyke (2007) suggests that each theory has its limitations and requires additional research in various contexts to fully explore the implications of such potential factors such as the political environment and a lack of

competition between service providers. Of critical importance to contract managers is the need to consider the factors and possibly develop theories that include elements of both agency and stewardship theories.

Similar to Van Slyke, Lambright (2009) used seven case studies to analyze how agency and stewardship theory explain the factors that influence how contractors providing social services properly use service monitoring tools under social services contracts in New York State. For the purpose of this research, Lambright (2009), in evaluating contractors providing social services, defined “service monitoring tools” to include any source of information that can be used by a government agency to monitor service inputs, service outputs and outcomes, particularly those that are mandated under the provider’s contract. These service monitoring tools, analogous to performance management tools, were considered important mechanisms in ensuring contractor accountability in meeting the social service goals and objectives (Lambright, 2009) .

The findings of this research are significant to the current study. In this research, Lambright (2009) found that there were three different reasons for why contractors were motivated to properly utilize service monitoring tools. These motivations included extrinsic factors such as contract rewards or avoidance of contract penalties or intrinsic factors such as the desire to improve the services provided. With regards to the extrinsic factors, rewards or penalties that were inherent in the contract terms and conditions or in the performance monitoring tool served as incentives or disincentives for performance measurement information use (Lambright, 2009). Likewise, intrinsic factors required the contractor to inherently believe that the use of performance measurement information may be beneficial to the organization in improving its services or other

internal purposes (Lambright, 2009). Finally, this research found that one possible motivational factor in the contracting relationship is the desire on the part of the contractor to strengthen the relationship that exists between the government agency representatives and those individuals working closely with the contractor on a daily/weekly basis and the individuals working for the contractor (Lambright, 2009). This uniquely identifies factors that go beyond the agency theory of the contracting relationship to aspects of the contractual relationship that are more closely aligned with stewardship theory.

Criticisms of Agency Theory. Critics of agency theory contend that as a model, the principal-agent relationship is “one-sided because it negatively characterizes an individual agent’s moral and collective behavior as self-seeking and focused on obtaining power and wealth; ignores worker loyalty, pride, and identification with the organization’s missions and goals; and omits opportunistic behavior by principals” (Van Slyke, 2007, p. 163). Waterman and Meier (1998) also criticized the model as discounting the evolving nature of the contracting relationship, often from one that begins as formal, hierarchical and legal based on the contract terms and conditions, to a more collaborative and cooperative relationship in meeting the contract’s end goals and objectives. Perrow (2014) also criticized agency theory in the organizational context as too simplistic. He suggests that reliance upon agency theory ignores many of the more cooperative aspects of relationships and that the information asymmetry that exists in the relationship is a natural result of the distribution of power in organizations. (Perrow, 2014) Finally, in the context of public service contracting, agency theory is criticized as difficult to measure and not easily observed (Van Slyke, 2007). These criticisms are

useful in evaluating contractor accountability and for performance management system design.

Despite these underlying assumptions in the theory and the criticisms, agency theory continues to be utilized to understand and explain the complex nature of the contracting relationship. Eisenhardt (1989) suggested that flexibility exists in applying the theory when such considerations as the context of the contract, the length of time of the contracting relationship, the type of service or product being contracted for and the level of conflict that may exist in the contracting relationship are factored into the application of the theory. Incorporating these considerations, it may be expected that in applying agency theory and mitigating the problems associated with the theory, when the contract provides clear incentives, such as contract renewal, contractor discretion, flexibility and autonomy in implementing the contractual objectives and vigilant monitoring, both formally and informally, there would be less contractor (agent) opportunism and contract goal divergence (Van Slyke, 2007).

Transaction Costs and Contracting. The costs associated with contracting include both the actual costs paid to the contractor and the costs the government incurs as a result of the outsourcing decision. Jensen and Meckling (1976) suggest that in the principal-agent relationship, there are “agency costs” defined as “the sum of (1) the monitoring of expenditures by the principal; (2) the bonding expenditures by the agent; and (3) the residual loss.” (Jensen & Meckling, 1976, p. 308) These costs, in the contractual relationship are real costs and can vary based upon a number of factors in the highly complex contractual relationship (Jensen & Meckling, 1976). Such factors

include the level of control the principal can exert over the agent to achieve objectives and the type of incentives included in the contract.

Similar to Jensen & Meckling's (1976) analysis of agency and transaction costs from the financial economics perspective in the contracting context, other researchers provided additional support for inherent costs related to contracting. Building on Jensen & Meckling, Williamson (1979) suggested that "transaction-cost economics is an interdisciplinary undertaking that joins economics with aspects of organization theory and overlaps extensively with contract law" (Williamson, 1979, p. 261). Relevant to this context, Williamson (1979) suggests that for highly idiosyncratic contractual transactions, the uniqueness of the services being provided play a role in the contractual terms and conditions including the incentives and penalties. In addition, the marketplace and uncertainty both have a role in the transaction, particularly when the transaction is either occasional or recurrent (Williamson, 1979).

All contracting activity involves some degree of transaction costs, including the cost of establishing and setting up the contract through contract closeout. This includes the costs associated with ongoing monitoring of the contractor's performance and enforcement of contract terms and conditions. Transaction cost economic theory suggests that when the investment is made in specialized assets, the transaction costs increase as efforts to reduce the inherent hazards of opportunism (Dyer, 1997). In complex contracts, there exists a high level of asset specificity (assets being allocated for a specific task and thus cannot be shared or reallocated) which is often the case in complex research and development contracts. An investment in asset specification is suggested to yield higher levels of performance (Dyer, 1997). Thus, when the

government contracts for goods and services, special attention must be paid to asset specification in order to ensure contractual performance.

However, in the traditional contractual relationship built on principal-agency theory, protecting against the hazards of opportunism from the agent's self-dealing requires specific safeguards. Such safeguards include specific language in the contract that details performance expectations and requirements, close monitoring of performance and enforcement of the contract's terms and conditions. Self-enforcing contracts utilize aspects of the contractual relationship such as trust and reputation to enforce the contract provisions (Dyer, 1997).

Relational Contracting. The relationship between the government and the contractor plays an important role in contractor performance. The term "relational contracting" was coined as a distinct type of contract (or contractual relationship) that recognizes that trust and cooperation are essential to successful performance and that the parties recognize the interdependent nature of relationship. These contracts are typically long term, open-ended and are utilized in contracting situations with a high level of uncertainty. The terms and conditions of the agreement are more flexible allowing the parties to adequately respond to changing conditions that may impact the contract. Thus, relational contracts are described as less vulnerable to the opportunism found in traditional contracts.

Public administration scholars have studied relational contracting suggesting that collaborative relationships can enhance contractor performance (Amirkhanyan, Kim, & Lambright, 2010). Amirkhanyan, Kim and Lambright (2010) explored the relationship between the design of the contractual relationship and contractor performance. In this

study, the researchers hypothesized that relationship strength and contract completeness was positively associated with contractor performance. Using an empirical approach and focusing on relationship design, the researchers developed measures that are generally found in contracts such as the existence of shared goals and procedures, the involvement of contractors in various aspects of decision making and common contractual practices that indicate mutual respect and openness. (Amirkhanyan, Kim, & Lambright, 2010) The study population consisted of social services providers with a focus on child care. This particular context is frequently utilized studying contracting as it is “difficult to measure and quantify, long-term relationships are prevalent and private markets are thin, and close and informal relationships are particularly important” (Amirkhanyan, Kim, & Lambright, 2010).

The dependent variable in the study was organizational performance, measured objectively by the number of violations that occurred during inspections and subjectively by the level of satisfaction child-care center directors had as a result of a survey seeking feedback. The independent variables were identified as contract completeness, current relationship strengthen and collaborative contract development (Amirkhanyan, Kim, & Lambright, 2010). The findings suggest that contractors that had stronger relationships with the government beginning at contract implementation were more satisfied with the performance of their specific center. Likewise, where shared understanding and agreement on goals and high levels of communication and cooperation exist, there were greater levels of satisfaction leading to improved performance. (Amirkhanyan, Kim, & Lambright, 2010) Specifically and relevant to this study, “having participatory contract implementation may allow contractors to (a) have a voice in developing meaningful

contract monitoring procedures, (b) provide feedback and share their understanding of contract goals and government agencies' expectations, and (c) communicate openly and frequently while seeking help in the case of operational problems" (Amirkhanyan, Kim, & Lambright, 2010, p. 209). In addition, where objective measures of performance are utilized, these measures of performance may not correlate with the contractor's own perception of organizational performance (Amirkhanyan, Kim, & Lambright, 2010). Thus, a combination of performance measures should be utilized, both objective and subjective, from a variety of sources, to collect performance information from a variety of sources. (Amirkhanyan, Kim, & Lambright, 2010)

Building on this research, Amirkhanyan, Kim & Lambright (2012) continued evaluating the collaborative nature of the contracting relationship in a subsequent study utilizing the same data set. Focusing in this study on contract characteristics, contractor traits and environmental factors as they impact the development of strong collaborative relationships between the government and the contractor, the researchers tested whether an "inverse or complementary relationship exists between collaboration and the degree of contract specification" (Amirkhanyan, Kim, & Lambright, 2012, p. 342).

Additionally, the researchers looked at other characteristics that may have a role including relationship strength, internal management capacity, contractor ownership status (non-profit versus for profit), contractor size, financial autonomy and affiliation with a larger organization. Dependent variables were developed to measure different aspects of collaborative relationship strength between the government and the contractor. Such dependent variables included share procedures, goal agreement communication quality and cooperation in contract implementation and were combined

into a single measure of collaborative relationship strength. Independent variables included contract traits and characteristics as identified above. The study found “that the development of detailed contracts and collaborative contracting arrangements play a complementary role in contracting relationships” (Amirkhanyan, Kim, & Lambright, 2012, p. 356) Detailed contract specifications that identify with specificity contractor roles, responsibilities and procedures can be utilized with other contract management tools and result in a collaborative contracting relationship (Amirkhanyan, Kim, & Lambright, 2012)

Also important in this study is the finding that relationship length had little association with the development of a collaborative relationship; however, some evidence existed that indicated that as the relationship continues, the contractor is more likely to cooperate in the contract’s implementation (Amirkhanyan, Kim, & Lambright, 2012). This finding supports other earlier findings by public administration researchers that trust in the government-contractor relationship develops over time (Van Slyke, 2009). The study further revealed that over time, the perceptions and beliefs of participants in the research of respect, trust and partnership changed but other aspects of collaborative contracting, such as goal agreement, communication quality and shared procedures did not (Van Slyke, 2009).

Motivation and the Role of Incentives. Incentives play an important role in both understanding motivation in the government-contractor relationship and in designing systems for contractor performance management. Evaluating the role of incentives in principal-agent relationships has also been an important aspect of performance contracting research. Heinrich & Marschke (2010) evaluated the role of incentive

systems in performance measurement systems using the principal agent model. In outlining an alternative framework for the design of incentive based systems, Heinrich & Marschke (2010) reviewed existing federal programs such as No Child Left Behind (NCLB) to suggest that policymakers in designing performance measurement and incentive systems lack a full understanding of the factors influencing performance measurement and how agents behave in order to modify the incentives provided to the agents. They found that incentives are more effective if care is taken to understand what motivates the agent, thus mitigating the impact of the inherent “moral hazard” that exists in the principal-agent relationship (Heinrich & Marschke, 2010).

Accountability and Contractor Oversight. One of the most difficult issues in outsourcing and government contracting is ensuring that adequate oversight exists in contracting. Many studies have evaluated methods for ensuring accountability in government contracts and the best methods for providing contractor oversight. Cigler (1990) conducted a study focusing on county contracting and accountability issues, evaluating local contracting not previously studied in the literature. She found that an accountability paradox existed in county contracting in the methods used to ensure accountability (Cigler, 1990). Specifically, in making the determination to outsource, accountability controls and other performance measures established to manage the contractual relationship were often of less concern to the public manager, who often focused more on the content of the written contract than accountability for contractor performance (Cigler, 1990). This led Cigler (1990, p. 289) to argue that public managers in contracting out were often more “reactive than proactive in response to

accountability questions and many public managers simply lacked adequate information about options for measuring performance and ensuring accountability in contracting”.

Similarly, Marvel & Marvel (2007) have analyzed monitoring approaches of contractors. In a study of contract monitoring of in-house services provided and those outsourced at the local government level, Marvel & Marvel (2007) were able to make empirical comparisons about monitoring approaches. Their findings suggest that at the local government level, government performance measurement of internally provided services, such as services provided in-house, was considerably more intense than the monitoring of contractor activities. The researchers also found that there were different levels of intensity of monitoring between contracting out to other governmental entities, other non-profit organizations and for-profit organizations, with lower levels of monitoring with other governments to only a slightly increased level of monitoring of for-profit entities. This suggests that the importance of performance monitoring and accountability is recognized by public managers at the local level but that contracting out does not necessarily mean comparable performance measurement or monitoring. Instead, the research suggests that the challenge remains in monitoring contractor performance and even more so if the contractor is non-profit or for profit.

Gooden (1998) also studied the effective practices that are utilized by public managers in contracting. In conducting interviews with public service managers actively involved in contracting out for human services, Gooden looked at several areas including contract monitoring. Important in this research is the perception of public managers in the contracting relationship. While it was determined that public managers perceive the relationship as “legal, business-like, contractual and sometimes adversarial

and conflictive” (Gooden, 1998, p. 508), professionals (contractors) often advocated more partnerships and cooperation in the relationship. They also found that successful public managers balanced the contractual relationship with partnering to foster a “win-win” situation that focused on relationship building with the contractor (Gooden, 1998).

Related to the issue of effectiveness in contracting, Romzek & Johnston (2005) examined the effectiveness of contract accountability in the provision of social service contracts. Five state social service contracts with non-profit organizations in Kansas were examined to determine factors that affect accountability. From this work, Romzek & Johnston (2005) identified three categories of potential determinants of accountability effectiveness. The categories included: 1) contract specifications; 2) contract design; and 3) accountability design. With regards to contract specifications, both “clearly articulated responsibilities and reporting relationships” and “suitable contract performance measures and deliverables” are both likely to enhance accountability effectiveness (Romzek & Johnston, 2005, p. 438). This highlights the importance of clarity in understanding the roles of the parties to the relationship and the adequacy of performance measures in the government-contractor relationship.

In contract design, several factors were determined to substantially affect accountability in performance measurement. From their research, Romzek & Johnston (2005) determined that the ease in which performance measurement information is generated plays an important role. Performance measurement information must be timely, accurate and valid in order to adequately assess contractor performance. Additionally, accountability is enhanced when “contractors have relative autonomy regarding their contractual obligations; conversely, accountability will be more difficult

when complex networks of providers are used to deliver services (Romzek & Johnston, 2005, p. 439).

Finally, with regards to accountability design, Romzek & Johnston (2005) found that one type of accountability may not be suitable for every contract type. Instead they found that “accountability effectiveness was enhanced by accountability alignments that are based upon the institutional environment, managerial strategy and contracting tasks” (Romzek & Johnston, 2005, p. 441). Contracts with high levels of risk and legal accountability had increased auditing and external monitoring based on explicit monitoring standards. In other contracts, where the focus was on professional accountability or political accountability, a greater emphasis was placed on benchmarks and outcomes of performance measures (Romzek & Johnston, 2005). Ultimately, this research revealed that effective accountability strategies were thwarted when contract managers were unable to collect performance data, despite adequate performance measures and when contracts were designed around a network of providers. Public managers tasked with contracting out services must design accountability systems that give consideration to the contracting environment, including the level of collaboration and cooperation between contractors.

Buchanan and Klingner (2007), in examining a single large dollar value DOD contract, demonstrated that performance-based service contracts can achieve considerable cost savings and better performance outcomes when well defined requirements are included in the contract and when performance incentives linked to the government’s incentives in the contract exist. This type of contract requirement demonstrates that the government can achieve better results through “partnering” with

high performance contractors and encouraging collaborative or cooperative relationships in contracting (Buchanan & Klingner, 2007). Their analysis suggests that contractors are motivated more by monetary incentives that are established in the contract and factors such as trust in the government-contractor relationship.

In summary, the literature on government contracting and the underlying theories of contractual relationships is highly complex. Numerous factors have the potential to influence the government-contractor relationship. The next section will outline the theoretical framework for this research study and further elaborate on the complex nature of the government contracting relationship in the context of the DOE Office of Science federal laboratories.

Theoretical Framework

The basic theoretical framework suggests the following relationship between the contractual relationship, the contract and contractor performance:

Figure 2 - Theoretical Framework

$$\text{Contractor Performance} \int \text{Relationship Between Government and Contractor} + \text{Contract Terms and Conditions}$$

This suggests that contractor performance is a function of the relationship between the government and the contractor and the terms and conditions formally specified in the contract. Thus contractor performance is dependent upon the variable (relationship) and the variable (contract terms and conditions). For the purposes of this study and the population under study (DOE Office of Science Laboratories), the contract terms and conditions remain the same. The Management and Operations (M&O) contract is the essentially the same across the ten laboratories. Thus by focusing this research study on the perception of the relationship between the government and the contractor ascertained by the parties, the results can shed some light on how the perception of the relationship, including the characteristics that exist in the relationship, influence the relationship and ultimately the performance under the contract. Within this context, this research evaluated how perceptions of the existence of characteristics that are foundational in agency and stewardship (e.g., respect, trust, autonomy) impact and influence the contracting relationship and potential contractor performance. Agency and stewardship theories are appropriate theoretical frameworks for studying both

contracting relationships and contract management practices. As a part of contract management, performance management, including measuring performance and reporting feedback, are tools utilized to obtain contractor performance. Table 1 below highlights the main themes, characteristics and tenets of both agency and stewardship theories as suggested in the literature.

Table 1 - Agency versus Stewardship Characteristics

	Agency Theory	Stewardship Theory
Primary Theme	Goal divergence: The agent's and principal's goals diverge based upon the self-interest of the parties.	Goal alignment: The steward's and principal's goals are aligned based upon cooperation and collaboration.
Relationship Characteristics	Relationship is characterized by <u>distrust</u> between the parties; <u>strict control and monitoring</u> , lack of <u>information sharing by the agent</u> , <u>motivated by extrinsic factors</u> (e.g. potential for sanctions under the contract or available incentives)	Relationship is characterized by <u>collaboration evidenced by mutual trust, cooperation and respect</u> .
Tenets	Agent does not share or fully disclose information to the principal (information asymmetry). Disclosure occurs when it is in the agent's best interest. Principal doesn't trust the agent to perform without contractual incentives or sanctions. Principal believes agent is motivated by self-interest and cannot be trusted. Principal uses incentives and sanctions in the contractual relationship	Principal uses empowerment strategies in the contractual relationship with the steward by vesting greater responsibility and autonomy in the contractor and establishing a culture of shared standards and norms. The contract contains governance mechanisms that are more relaxed and have frequent feedback mechanisms.

	with the agent to encourage goal alignment. Such incentives and sanctions include reward systems, strict monitoring, assigning the risk of non-compliance to the agent and threats to the external reputation of the contractor.	
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Applying the information from these tenets in a theoretical framework in the context of public service contracting is outlined in Table 2.

Table 2 -Agency versus Stewardship Theory

Agency Theory	Stewardship Theory
Principal will use available contractual mechanisms to eliminate opportunistic behavior of the agent. This will include close monitoring, greater contractor oversight, specific contract requirements and reduced contractor discretion and autonomy in decision making. Reputation (including potential harm thereto) is used as an incentive and a potential sanction; other sanctions such as the threat of non-renewal of the contractor are also utilized.	Principal will use shared goals and trust to ensure contract compliance and goal alignment. This is manifested by increased levels of responsibility, autonomy and discretion in decision making. Monitoring still occurs but there is less dependence on legal contract terms to enforce behavioral expectations.

As noted in the literature review, agency and stewardship theories as outlined in this theoretical framework, suggest that where the relationship is perceived as principal-stewardship, there exists adequate communication, information sharing occurs at high levels informally, the high levels of trust (manifested as autonomy in decision making), there is mutual respect and the contractor is motivated intrinsically based upon mutuality

of goals and contract purpose. In contrast, a relationship built on the strict principal-agency relationship theory will have lower levels of communication, excessive monitoring to obtain information about contractor activities, lower levels of trust and the contractor is motivated by the contract specific rewards and the potential of the government to impose sanctions as a result of failure to performance. Where there are lower levels of communication, then trust is low, autonomy in decision making is reduced and greater levels of oversight exist.

In stewardship, there is greater goal alignment, goal consensus and thus performance levels by the contractor are high, resulting in high (or higher) performance scores. Where contractor performance is high, the perception of a stewardship, partnership and a collaborative relationship will be prevalent by the contractor and the government. Stewardship, partnership and collaboration lead to high-performing contractors, in formal contract settings and under structured performance regimes.

Three key aspects of agency and stewardship theories are the focus of this research, including information asymmetry, trust and motivations under the contract. Information asymmetry is defined as the agent having more information available than the principal and therefore, an “imbalance” exists. It is evidenced in the agency relationship by a general lack of communication which in turn translates to less information sharing and information exchanged between principal and agent. The information that is exchanged between the agent and the principal is that which is required by the contract or information that is non-voluntarily disclosed to the principal. Additionally, the information meets the general requirements of the contract through reporting by the agent to the principal or obtained through monitoring and oversight by

the principal. Thus, in a relationship characterized by high levels of agency and low levels of stewardship, it is suggested that:

Figure 3 - Information Asymmetry in Agency Theory

Information asymmetry = frequent reporting based on + frequent monitoring by principal
Contract requirements of agent's activities

In a relationship perceived as principal-steward, it is suggested that there will be little information asymmetry and greater perceived levels of information sharing, with the principal-steward having more frequent communication on a voluntary basis. Information is freely shared in a cooperative manner in order to foster a collaborative relationship. The principal recognizes the information asymmetry that is inherent in the contractual relationship and thus seeks input and information from the contractor to develop solutions to problems and to achieve common goals and objectives.

In addition to information asymmetry, levels of perceived trust within the government-contractor relationship will be explored. Trust is measured in this study by exploring perceptions of autonomy in decision making and the perceived monitoring of the contractor's activities by the parties. In a relationship characterized by high levels of perceived agency, it is anticipated that the level of trust (if low) between the government and the contractor will result in limited autonomous decision making by the contractor and frequent monitoring and oversight of contractor activities by the government to

monitor performance. In relationships characterized by high levels of perceived stewardship, it is anticipated that trust between the government and the contractor will result in greater levels of autonomous decision making, delegated by the government to the contractor, and the perception that contractor monitoring is only routine monitoring of the requirements as outlined in the terms and conditions of the contract.

Finally, this research will explore reported motivations for performance by contractor. Under agency theories of the government-contractor relationship, the literature suggests that the contractor performance will be primarily motivated by extrinsic factors such incentives (award fee) and the potential sanctions such as non-renewal of the contract. In contrast, under stewardship theories, the contractor's motivations include intrinsic factors such as the reputation of the contractor amongst peer groups (e.g. within the research community and amongst federal laboratories in general) and maintaining a good relationship with the principal, in this case with the contracting officer and the local DOE site officials charged with performance monitoring and oversight. In this study, the motivations that are explored will include the personal and professional motivations as well as the reported motivations of the organization as perceived by the study participants.

The methodology chapter that follows begins with an introduction where the purpose of the study and the research questions are discussed. The second section of the methodology chapter discusses the sampling methods used, an overview of the information required to conduct the study, the research design, a discussion of the data collection methods, data analysis and synthesis methods. Finally, this chapter will discuss the ethical considerations involved in the study, issues relating to

trustworthiness, the limitations of the study as identified by the research and a summary of the chapter.

CHAPTER III

RESEARCH METHODOLOGY

Introduction and Overview

For the purposes of this study, a qualitative research methodology was selected. In a qualitative research study, theories are generated for the purposes of understanding some social phenomena (McNabb, 2008). For this qualitative study, the research method is a case study approach. The case study approach has its roots in psychology research, is often used in the public administration context to study a governmental agency or organization, or a group within the organization. As a part of this case study, the methods used included an interview-based methodology which was utilized with a document analysis of four specific closed units of analysis. The interview-based methodology consisted of the recruitment and selection of participants in the study who held leadership positions within the national laboratories and participated in the PEMP. This particular study sample is uniquely qualified to share their experiences within the DOE national laboratories, their perceptions of events, personal values and perceptions in a narrative format. The overall purpose of this aspect of the study was to explore the perceptions of government personnel and contractor personnel at the DOE Office of Science national laboratories in the contractual relationship. This information is critical to understanding the nature of the relationship and the factors perceived as influencing the relationship. It also provides additional insights into the study sub-questions including the perception of attributes and characteristics of agency versus stewardship influence the contracting relationship.

The closed unit case study analysis included primarily the perceptions of the government evaluators who provided both narrative feedback as a part of the evaluation and scores to the laboratory contractor under the DOE's PEMP program. This information included six years of data, from 2009 – 2014 of annual performance evaluations for the four laboratories selected for study and analysis. This information was provided directly from the DOE Office of Science and included detailed information about each performance goal, objective and notable outcome for the laboratories. For the purposes of reviewing and evaluating performance trends, on the scores at the highest level (goal scores) were utilized for trend analysis. The narrative comments made by the evaluators were also analyzed for emerging themes in the case study approach. Finally, in addition to the performance evaluation information, additional insights were gained from a review of the interviews conducted with both government personnel and contractor personnel. In order to protect the anonymity of the participants, limited information was included in the case study analysis. However, where appropriate, this information supplemented and clarified information gained from the document review process and analysis.

The intent in this research study is to address a gap, as stated above, in the field of public administration specific to public contracting, regarding the role the relationship between the contractor and the government agency entering into the contract plays in contracting success and in the potential performance of the contractor under the contract. By addressing this gap, public administrators can gain a greater understanding of how perceptions influence the relationship in order to structure contractual relationships and

the performance management and oversight mechanisms to improve performance outcomes.

To address the gap and after reviewing the literature on contracting relationships, this study was principally guided by the follow research questions:

1. How does the perception of the relationship between the government and the contractor, as either an agent or as a steward, influence the government-contractor relationship and potentially the contractor's performance?
2. How do the parties perceive that information is shared in the government-contractor relationship?
3. How do the parties perceive the level of trust that exists in the relationship?
4. What do contractors and government personnel perceive as the major factors that motivate the contractor's performance?
5. How do the parties perceive that the relationship has evolved since the beginning of the current contract period?

The next sections of this Methodology Chapter will provide an overview of the research design and why this choice of research design is appropriate. It will next discuss the sample utilized, a description of the sampling method and the information required to conduct the study. Finally, this chapter will discuss the ethical considerations, study limitations and issues of trustworthiness that are implicated in this study.

Research Design Overview

This study utilized a qualitative research design. A qualitative research design is best suited for exploring the individual attitudes, feelings and perceptions of the individual research participants (Kothari, 2004). A qualitative design was appropriate for this study as it sought to describe and provide some exploration about the perception of government personnel and contractor personnel operating the DOE Office of Science laboratories. In qualitative research, an ultimate version of the truth is not sought in this methodology; instead the researcher is seeking to make sense of the problem identified and the research question posed by exploring emerging themes. Using a qualitative research design for this study enabled the researcher to elicit narrative responses, providing considerably greater depth into the insights of the research questions. The value of this research is not based solely on its reproducibility but also on the significance of the meanings generated from the findings. As suggested by Yin (2014), this type of methodology is best suited to look at the role of perceptions and experience of the participants in answering the “what” (descriptive) and “how” (explanatory) research questions. It further allows an empirical inquiry to the study of the phenomenon here, the contractual relationship. Stated differently, the researcher is able to ascertain based upon first-hand knowledge of study participants their own experience in the contractual relationship.

The use of a quantitative research methodology alone was rejected as this type of study is less suited to comparing or contrasting through quantitative analysis numerical data and relationships (Creswell, 2009); while some trend evaluation was conducted, this was primarily utilized to evaluate and seek out correlations between qualitative

statements and performance scores. The use of a variety of sources, including but not limited laboratory evaluation reports, interviews, contractual documents and other information provided throughout the research enabled the researcher to conduct a detailed and thorough analysis of the underlying concept of the contractual relationship.

Research Sample

For this study and both parts of the analysis, the overall study sample was derived from the DOE laboratories that are part of the DOE Office of Science. As an agency, the DOE operates a number of laboratories; however, only ten are operated as a part of the DOE Office of Science. The research population consisted of members of the leadership team of the ten national laboratories operated by the DOE Office of Science. For the purpose of this study this consisted of both contractor personnel and the lead DOE site office personnel. In order to conduct this study, a research sample was developed. A research sample generally consists of a small group or subsection of research participants who are drawn from the larger total study population. (Johnson & Christen, 2011). The development of the research sample was two-fold. First, via contact at the DOE Office of Science, the names of the primary point of contact at each laboratory (“Site Office Manager”) were provided. Second, in order to identify contractor personnel, the researcher obtained a copy of the laboratory organizational chart from each laboratory’s website. This information was carefully reviewed to determine which personnel were likely to play an integral role in laboratory management and oversight as well as have a role in the performance evaluation and management process. The study population yielded approximately 150 individuals across the contractor personnel who were likely to meet the identified characteristics.

From this study population, a relatively small number of potential participants (5 from each lab or approximately 50 individuals) were contacted regarding the study and asked to participate. Of the 50 individuals solicited, a smaller sample of individual participants (13 laboratory contractor personnel and 5 government personnel) was useful and enabled the researcher to explore in greater depth the lived experiences each has had in the operation of the laboratory and in the relationship. Additionally, a smaller sample aided the researcher by providing sufficient time to analyze the large amounts of qualitative data generated from the in-depth interviews with the participants within the group, by laboratory and as an aggregate group of participants.

Purposive sampling was also utilized. This is a technique often used in qualitative research when a specific research sample is necessary in order to adequately address the research questions. (Teddlie & Yu, 2007) The focus with purposive sampling is the generation of a sample of individuals that meet a specific set of criteria or characteristics. It is a suitable methodology for use in qualitative studies where information is sought from a group with unique characteristics, such as those individuals operating the DOE Office of Science laboratories. These individuals have, through their occupation, obtained lived experiences that in this research are not widespread in the general population.

In the present study, the use of purposive sampling enabled the researcher to generate a sample of individuals (18) with first-hand direct knowledge of laboratory operations, both administrative and scientific, as well as those individuals with frequent interactions in the government-contractor relationship. In addition to the purposive sampling used primarily to identify contractor personnel, convenience sampling

techniques were utilized for Site Office Managers, which represented a smaller group of individuals. These individuals were easy to reach based on the initial contact made with the DOE Office of Science Headquarters personnel in Washington, D.C. A limited amount of snowball sampling was utilized when Site Office Managers suggested other personnel, either government or contractor, who might provide further insights useful to the study. Snowball sampling is a research technique often used when participants may be more difficult to locate who meet the specific characteristics. The assistance of the DOE Office of Science was an invaluable aspect of identifying individuals who would have first-hand knowledge and experience in the operation of the federal laboratories.

Overview of Information Required

In this study, several types of information were deemed necessary to address the research questions. For this qualitative study, the primary source information required was data and information obtained from the interviews. For the multiple case study, the required information included data from the interviews and secondary data obtained from the DOE regarding laboratory performance evaluation. The latter information, in conjunction with the interview information obtained, provided the context for the primary research findings. For example, laboratory profiles were developed for each laboratory from laboratory information that was publicly available. Further, demographic information was collected for each participant to evaluate their experience in laboratory operations. Data specifically from each participant regarding their length of time working for the DOE, the laboratory itself and in the individual's current position was obtained. This information was useful in looking at the level of experience

in the contractual relationship, relationship longevity and understanding how tenure with the laboratory or the DOE impacts the relationship.

Agency and stewardship theories, as well as relational contracting, form the basis of the study, which looks fundamentally at the relationship between the government and its contractor through personal and lived experiences. Agency theory is a foundation theory in contracting and stewardship theory has been explored as an alternative theory to agency theory for contracting. Relational contracting is a fundamental concept in the public contracting relationship (Amirkhanyan, 2008). Each of these aspects of the theoretical framework was critical in forming the basis of the types of information required and collected as a part of this research.

The manner in which individuals perceive their relationship with others is critical to relationship success in any setting. It dictates not only the daily interaction between the parties in a contract but also has a role in how decisions are made on a daily basis. Insights into the lived experience of government personnel and contractor personnel have shaped their relationship in managing the laboratory. How their individual past experience has shaped their interaction is important to gaining a better understanding of how the relationship is managed and how it has evolved over time.

For this research, in-depth interviews were performed in order to collect primary data useful in this study. The purpose of in-depth interviewing “is an interest in understanding the actual (lived) experiences of other people and the meaning they make of that experience” (Seidman, 2013). Further, interviewing provides insights that provide a better understanding of the why and how individuals act and behave, as well

as interact with others. “A basic assumption in in-depth interviewing research is that the meaning people make of their experience affects the way they carry out that experience” (Blumer, 1969). Thus, their individual experience often explains the behavior of those within organization. Furthermore, Seidman (2013) suggests that “a primary way a researcher can investigate an organization or process is through the experience of the individual people... who make up the organization or carry out the process.” This strategy, through the in-depth interviewing conducted in this research and multiple case study analysis, afforded the researcher access “to the context of people’s behavior ...providing a way for researchers to understand the meaning of that behavior” (Seidman, 2013). Therefore, employing this strategy is a key aspect of this research to understand the nature of the contractual relationship.

From the interviews, information on what each party considers important in the relationship was sought as a part of this study as well as what motivates the performance of the contractor. The relative importance that each party asserts of various factors in the relationship is critical in determining aspects of agency or stewardship. Further, whether perceived individual motivations are intrinsic versus extrinsic are factors considered critical in determining a perceived agency or stewardship relationship. In this study, participants were asked to provide advice to a successor to their current position on how best to manage the contractual relationship. Responses to this question further helped in identifying what is considered important in the relationship between the government and the contractor. Other questions such as perceptions of how change, specifically changes in leadership and leadership communication styles, were also posed to participants in the study. Response to these questions may be significantly impacted

by their longevity with the institution and the perception that individual has within the context of their role in operating the laboratory. Thus, information regarding an individual's tenure in the laboratory, within DOE itself and in their current role was deemed important to understanding the context of the responses provided.

Open-ended questions were utilized throughout the research process with follow-up questions and probing questions as necessary. The utilization of open-ended questions in this manner throughout the interview process enable the participants to fully engage in the discussion of their individual view points and to express various perceptions that were not anticipated by this research in the development of the interview guide. As a result, more questions evolved during the process which yielded more information about the individual participants' experiences and how their professional experience has influence or shaped their perception of the relationship that exists between the government and the contractor today.

Other secondary data was collected including six years of performance evaluation reports, six years of laboratory scoring data and various other documents and agreements that are incorporated into the government-contractor relationship. Since some of the secondary was quantitative, this information was able to be evaluated using some descriptive statistical analysis to describe the data patterns, to evaluate frequency of responses, to assess trends in scoring and to determine if there were linkages or relationships between scores and narrative comments made as a part of the evaluation process or other changes in the government-contractor relationship.

Data Collection Methods

Research studies often utilize both primary and secondary data to answer the research questions. For the purposes of this study, primary data consisted of firsthand information and personal accounts of each individual participant in the study obtained from interviews conducted. The primary data obtained was used in both the interview analysis and the multiple case study analysis. In addition to the primary data, secondary data was obtained for use in the multiple case study analysis. Secondary data for this research study consisted of existing documents provided by the DOE Office of Science, specifically six years of performance plans (2009-2014) and the evaluation reports and scores for the same period. This period provided a boundary in time for which to evaluate the underlying cases. Secondary data, while useful in many aspects and in specifically in simplifying the research process through its ease in acquisition, may be biased or contain inaccuracies which must be considered in the research (Hamilton, 2005). Thus, primary data collection, through telephonic interviews, was utilized as the primary data collection methodology for this study. This allowed the researcher to focus efforts on obtaining firsthand information from the participants that might be insightful in understanding a critical phenomenon in the study, principally the aspects of the contracting relationship.

Primary Data Collection. In order to conduct the interviews, introduction letters were sent via email to each prospective participant (Appendix G). This introduction letter served two purposes: 1) to provide the participant with information about the study; and 2) to provide informed consent for each participant. Each study participant was notified about the purpose of the study and voluntary nature of their participation.

While each participant was made aware that initial contact was made with the DOE Office of Science, they were also advised that participation was strictly voluntary in order to ensure that the participant did not feel compelled to participate. By responding and agreeing to participate in the interview process and actually participating in the process, each participant voluntarily agreed to participate and therefore, no formal written consent was provided. Participants were advised that the interviews were recorded for the purposes of preparing written transcripts of the interviews. In addition, participants were assured that the information collected would not be attributed to them individually, as their individual names would not be utilized. Re-contact was made in instances where clarifications were necessary.

Instruments Used. A semi-structured interview guide was used for data collection purposes and formed the basis of each interview (Appendix D). The use of a semi-structured interview guide afforded the researcher the flexibility to ask additional questions (probes) during the interview process and allowed the participants to answer questions in their own words, providing insights into their true feelings, attitudes and perceptions (Groenwald, 2004). The interview guide contained semi-structured, open-ended interview questions derived from the theoretical framework and more specifically, related to the research questions under study. Where appropriate after probing, closed ended questions were utilized to obtain a range of specific possible responses. Closed-ended questions were also used to obtain participant criteria verification (e.g. participation in the PEMP process) and demographic information. For the purposes of this study, demographic information was limited to gender, race and length of time with

the DOE and the laboratory or length of time employed by the contractor or with the laboratory under prior contractors.

Secondary Data Collection. For the multiple case study analysis, secondary documents and website information, in addition to the interview information, were relied upon. Yin (2011) suggests that the data collection in case study research draw upon multiple sources, including interviews, documents and other archival records. For this study, the documents reviewed included those provided by the DOE Office of Science such as background reports and presentations about the PEMP program and the process of conducting laboratory evaluations, as well as performance reports for each of the four laboratories and their scores. The performance reports included information from the government employees (both the DOE Site Office and DOE HQ) who compiled the evaluations and the scores given to each laboratory. Using an excel spreadsheet, the scores for each goal (1-8) for each laboratory were recorded and tallied for each year of study (2009-2014). Since goals 1-3 were scored by the DOE HQ and goals 4-8 scored by the DOE Site Office, these were separated for clarity. Once the scores were recorded, the mean score for each goal was calculated and the scores were graphically portrayed to identify specific trends, patterns and areas of inquiry.

The narrative information contained in each report for each laboratory for each period was also reviewed to identify emerging themes and patterns related to the theoretical framework. A similar process of content analysis was utilized to identify and record comments that identified a specific theme related to the major areas of study. Additionally, where specific trends or patterns were identified such as substantial changes in the score from year to year at a laboratory, further thematic analysis occurred

of the narrative explanation. The purpose of this analysis was to assess the narrative information for themes that explain the rationale used by the evaluators for the performance score. Further, it provided insights, from at least the government perspective, as to important aspects of the relationship as outline in the theoretical framework that impact performance (e.g., communication, trust, etc.). Once the scores and narrative information were collected, the information obtained was compared and analyzed with the interview information collected in the primary data collection identified above. This included only the government and contractor personnel who were part of the primary data collection and analysis including those providing specific oversight to the laboratory under study.

Methods for Data Analysis and Synthesis

The process used in analyzing the data collected was structured to provide information that would be useful in answering the research questions posed. For the primary data obtained from the interviews, the principal goal in the analysis was to make sense of the data by developing key themes and subsequently grouping the data according to key themes or constructs. This required a detailed analysis of the content of each interview conducted. Content analysis is flexible method for analyzing text and is generally used to analyze written and narrative statements (Cole, 1988) such as those utilized in this research study. In qualitative research, a content analysis is “a systematic and objective means of describing and quantifying phenomena” (Krippendorff, 1980; Downe-Wamboldt, 1992; Sandelowski, 1995) for the purposes of identifying themes and patterns. With this analysis, the researcher is able to make inferences from the data for purpose of providing new insights, knowledge or

information (Krippendorff, 1980). For the purposes of this study, a deductive content analysis was used based upon the developed prior research into agency and stewardship theories. “Deductive content analysis is used when the structure of analysis is operationalized on the basis of previous knowledge and the purpose of the study is theory testing” (Elo & Kyngas, 2008). As noted in the literature, agency theory and stewardship theory are thought to be in many aspects incompatible in the contractual relationship. Analysis using this approach allowed the researcher in this study to give meaning to the data and further explore the content and data based upon the categories of agency and stewardship within the context of the theoretical framework.

The content analysis process includes a detailed review, repeatedly of the interview transcripts in order to develop emerging themes. From this detailed review process, a process similar to Coliazzi’s “bracketing” used in interviews was utilized to further analyze and describe the data. Bracketing is useful to maintain transcendental subjectivity or neutrality by blocking the researcher’s presumptions of the phenomenon under study (Wojnar & Swanson, 2007). This level of subjectivity neutralization was achieved by the researcher’s noting of personal observations, conceptions and confusions throughout the interview process in a reflective diary. This information allowed the researcher to seek to remain objective throughout the research and not unduly introduce bias based upon the either the literature review or personal knowledge and experience in contracting and federal laboratory operations. Data analysis or “analyzing” in this manner includes reviewing the interview transcripts which describe the research phenomenon under study (e.g., “contractual relationship”) and extracting from the information important accounts, aspects and narrative statements that relate to

the phenomenon or area of interest. From this information, meanings are generated and organized by their content into themes and descriptions for further content and pattern analysis. Where questions or discrepancies arose during the data analysis phase, the study participants were re-contacted to validate the descriptions of their experiences and where needed, necessary changes were made in the final narrative of the study (Wojnar & Swanson, 2007).

As a part of the data analysis process and review of the interview transcripts, a thematic analysis was conducted of the data. A thematic analysis, as described by Ryan and Bernard (2003) involves the several tasks including: (1) discover of and identification of themes, either implicitly through interpretation or explicitly, that exist within the data collected; (2) a narrowing or “winnowing” of themes to a manageable number, including deciding which themes are more relevant to the research; 3) building of hierarchies of the identified themes into a coding sheet or code book; and 4) linking the identified themes into a theoretical model or framework. For this research, the identified themes were allocated to codes and “sub codes” for further examination, interpretation and analysis. This involved examining numbers of interview participants that were associated with a particular code or theme, and exploring ways in which codes and “sub codes” were related.

For this study, both *a priori* and inductive methods were used to identify codes. “*A priori* themes come from the characteristics of the phenomenon being studied, from agreed on professional definitions found in literature reviews; from local, commonsense constructs; the researcher’s values, theoretical orientations, and personal experiences” (Ryan & Bernard, 2003). In this study, the *a priori* coding method involved reviewing

the literature and the theoretical framework for the purposes of identifying relevant codes in advance and subsequently allocating relevant data to these codes. Using *a priori* coding enables the researcher to structure and organize the research data and information in advance based on the work of previous researchers, the literature and the theoretical framework. The process of inductive coding involved the development of codes after reviewing the data and information based upon allowing emerging themes. By combining the process of *a priori* coding with inductive coding allows for the refinement of the coding and sub-coding choices and helps ensure that the unique experiences of those individuals participating in the research are clearly and accurately included in the research results. A copy of the coding structure for the themes identified is included in Appendix H.

In this study, the qualitative analysis software program NVivo 11(QSR International Pty Ltd., 2015) was utilized as a tool for the purpose of both analyzing and coding the interview transcripts and conducting the thematic analysis. The analysis process consisted of the following four steps:

- (1) The researcher reviewed the research transcripts a minimum of two times to provide a general overview of the participants' accounts of their viewpoints and experiences. From this process, the researcher was able to make sense of the information and to validate aspects of the initial *a priori* coding structure that was developed. This *a priori* coding structure was also further refined after a review of emerging themes in the initial evaluation of the interview transcripts.
- (2) After the initial review of the transcript, the researcher then systematically reviewed the transcripts again in detail, allocating the data and information obtained from the interviews into the initial code categories and adding further codes and "sub codes" along the way, as needed to reflect an inductive review of the interview material. Significant and relevant information was extracted as a part of this process in narrative form to convey the theme from the perspective of the interviewee.

- (3) The data and information that was allocated against each coded theme was then examined extensive to gain an understanding of the interviewee's views and experiences. As a part of this step in the analysis, the researcher was tasked with evaluating the importance and significance of these finding based on the narrative information and the context provided in the development of the theoretical framework and the literature review.
- (4) The NVivo coding tree was further refined and material reallocated as needed in the final stage of analysis.

In reporting the results in the next chapter, any “significant statements” identified, which characterized a particular theme, were extracted during the analysis and subsequently recorded verbatim except to where altered materially to protect confidentiality to illustrate the theme identified and to effectively convey the participant's experience.

For the analysis of the four laboratories, a similar process was used where the data was reviewed using an embedded analysis of specific aspects of the contracting relationship and performance evaluation. The researcher focused on a few key themes that emerged as a result of the analysis of the interviews and the *a priori* coding structure developed. By focusing on a few key themes and a holistic review of each case, the researcher was able to focus the data synthesis and analysis on understanding the complexity of the four cases at hand and the identification of common themes that exist across all the cases (Yin, 2003). In order to adequately present the results, information obtained from internet sources was first used to provide a detailed description of the case and important aspects of the case for a “within-case analysis” (Creswell, 2006). The “within-case analysis” was followed with a more thematic

analysis across all of the cases. This thematic analysis across the cases for common themes is rich in the context of the case or setting in which the case presents itself (Merriam, 1988). For this research, it included an evaluation of various aspects of performance, the influence of leadership changes, changes in DOE policy or laboratory policy, the existence of an on-site presence by the federal employees charged with providing oversight and the longevity of the relationship between the government employees and the laboratory contractor employees.

In the final stage of data analysis, the researcher utilized the data and information from the analysis and synthesis to report the meaning of each case and across the cases specific to the issues identified. This final stage of data analysis also included a review of the information obtained from the interviews that corresponded with each case to provide further insights in the analysis. The interpretation of the findings is based on a comparative analysis of the data collected with the information from the literature review and the developed theoretical framework. From the literature, various aspects of agency and stewardship in contracting relationships were very important in data analysis.

Ethical Considerations

In conducting any research, the highest ethical standards require that participants not be placed in a situation where they may be caused harm as a result of study participation. For this study, the results are expected to provide important insights into the relationship between the federal government and contractors, as well as the various factors that influence the government –contractor relationship. The findings included

many reported negative events occurring at the laboratory, presented through anecdotal stories from both the government and contractor leadership and not captured in performance narratives included with the PEMP. Therefore, in presenting the results and data, and the inferences drawn as a part of the analysis, due consideration was given to the potential negative impact on individual participants in this study. As a part of this consideration, the names of each laboratory that are part of the case analysis have been replaced with a pseudonym, e.g. Laboratory A-D. Information about each laboratory, including events that occurred, was presented in a generalized context to reduce the potential opportunity to re-identify each laboratory in the case analysis.

For individual participants, added ethical considerations and steps were taken. As government employees, there exists the potential that information may be misconstrued by the contractor or imply that a preconceived notion exists about performance based upon the relationship or the current laboratory leadership. Likewise, for contractors who participated in this study, specific narrative statements might be construed negatively by government employees, particularly those at the local site office, when describing the relationship or relaying specific anecdotal examples that clarify the aspects of the relationship. Specific demographic information about participants and their role with the lab was a concern as findings might portray individuals in a negative light after the findings are published.

As a result of these concerns, a number of steps were taken to protect the anonymity of the study participants and the confidentiality of the information provided as primary data. This included the research consent forms that were sent in advance that explained the study, the voluntary nature of participation and the risks associated with

participation. During the interview, the researcher reiterated the voluntary nature of the participation in the study and provided assurances to participants that their information would be treated as confidential. All interviews were set up at a time that was convenient for the participant via telephone and each participant was advised that the interview would be taped for transcription purposes. While notetaking occurred, the interview taping and subsequent transcription was relied upon for data collection. Demographic data was also collected during the interview process or by follow-up email communication. This information was recorded on a separate table and was incorporated in limited form in the coding of the transcripts. All information included in the final research was included without identifying information and every effort made to ensure no individual statements could be attributed to one laboratory or individual.

The use of a set of open-ended interview questions for this qualitative study also aided in the ethical considerations. Open-ended questions afforded considerable elaboration on various topics by participants, allowing them to freely contribute information considered by them to be relevant to relaying their experience in the government-contractor relationship. The use of open-ended questions as a part of the interview process assisted in enhancing the quality of the data obtained throughout the interview process. Avoidance of bias was also of critical importance and the researcher was careful to identify any areas of potential bias throughout the interview process and report the relevant data with due care and sensitivity.

In social research, the use of federal agency information can be another ethical issue for consideration. Certain types of federal information may be sensitive, particularly information about federal agencies or its federal laboratory operations and

thus may not be suitable for reporting or use in this research. This issue was avoided by careful selection of the information available through early communication of the research with representatives of the DOE. As a result of this early communication process, available information that would not be sensitive was identified. Further, as noted above, to protect individual participants who may have relayed anecdotal information in the research or reiterated information from publicly available information for their individual laboratory, the nature and facts involved in the event were modified to ensure anonymity. The publicly available information such as the PEMP reports, contracts and similar documents all constitute the secondary data. This information was obtained as a result of a Freedom of Information Act (FOIA) request to the DOE and from the internet and obtained in advance of beginning the research. Other documents such as the Partnership Agreement were provided directly from government representatives after the interviews. Special attention was paid to the potential sensitivity of this information which was laboratory specific and avoided in this research.

Issues of Trustworthiness

Issues of trustworthiness are critically important in social research. Unlike quantitative research studies which focus on numbers, qualitative research is criticized by scholars based on its reliability, dependability and validity. The results of qualitative research are subject to interpretation by the researcher and can be influenced by feelings, biases and preconceived notions of the researcher. Thus, trustworthiness can only be established with such concepts as credibility, dependability and transferability.

Credibility in qualitative research refers to the internal validity of the research itself. Credibility relies upon the researcher's ability to ensure that the study actually measures what it is intended to measure and that the results and findings are congruent with reality (Elo, Kaariainen, Kanste, Polkki, Utrainen & Kyngas, 2014).

For the purposes of this study, credibility has been established by adopting the highest quality methods for conducting the interview as well as the use of well-established qualitative interview techniques. As noted previously, the use of semi-structured interview questions and open-ended questions with probes were useful tools to help in ensuring that specific information relevant to the research questions was collected. Early familiarity with the DOE Office of Science laboratories was established by meeting with DOE Office of Science officials in advance to obtain insights into the contracting process, the contracting relationship and the Performance Evaluation and Management Process (PEMP). Additionally, a review of the relevant literature regarding contracting, contractual relationships and relational contracting assisted the researcher in understanding the research topic. The participant letter which served as consent ensured that all participants were aware of the purpose of the research study and is thought to contribute toward the credibility of the research results by allowing the participant to fully engage in the discussion in an honest and thoughtful manner. Information from participants also provided needed insights into the credibility of the results.

Dependability is primarily focused on ensuring reliability of the results of the study. The potential replication is one indicator of dependability of the results. In order to address any issue of dependability, the process utilized to obtain and record the data

for analysis and reporting results was well documented throughout the research process. This ensures that the study could be replicated or evaluated by future researchers interested in this area. Maintaining detailed information about the sampling used for the interviews, the data collection processes used and the context of the research all support the ability to replicate or reproduce the study in various contexts.

Transferability in qualitative research studies refers to the applicability of the study findings to other contexts, situations or similar phenomena. This is often referred to as “external validity” of the research. In a qualitative research study, the underlying research phenomenon being studied must be understood with the established context, including the significance of the unique characteristics of the study (Shenton, 2004). The established context may be a specific organization or type of organizations or a social group. As a part of the literature review for this research, studies were selected that addressed contractual relationships were sought and where available, specific emphasis placed on the utilization of studies that employed similar study methodologies to investigate the underlying phenomenon. These similar studies were useful in shaping the direction of this qualitative study and ensuring that the findings could potentially be transferable to future studies related to government contracting relationships.

Limitations of the Study

There are a number of limitations that have been identified in this study. First, the findings of this research study in the context of federal laboratories in the DOE system would not necessarily be generalizable to all types of government contracting relationships. The uniqueness of the subject matter area, research, has a set of

characteristics that may not exist in all contracting scenarios. Additionally, purposeful sampling of this type is designed to be representative of the organization itself; however, it may not be generalizable across the different types of populations. In qualitative research studies, the use of open-ended questions can serve as a limitation as a result of obtaining redundant information from study participants. This may weaken the data analysis and reproducibility of study results.

In this qualitative study, the results may not be transferable because the results were unable to be generalized in a probabilistic sense (Burchett, Mayhew, Lavis & Dobrow, 2013). As such, to establish some transferability, as much detailed and descriptive but context-relevant narrative statements were included to ensure that the reader can identify with the context of the findings. The size of the study sample may also limit the generalizability of the results. Finally, despite every effort made to minimize the potential bias from working at a federal laboratory (non-DOE Office of Science) and to maintain objectivity, some level of subjectivity was inevitable. Every effort was made by the researcher not to impose preconceived ideas on the study participants to avoid bias while practicing active listening to the study participants and what they were saying throughout the interview process.

Beyond the limitations mentioned in Chapter III, Methodology additional study limitations are worthy of note, particularly in view of prior research in this area. As with other studies, the focus of this research is in the United States, utilizing the DOE Office of Science national laboratories as the study population. This is of importance as the organizational culture in many organizations in the U.S., both in the public and private sectors, stresses individualism (Lambright, 2008). This individualism is highlighted by an

interest in attaining individual goals and objectives and is more characteristic of agency relationships than stewardship. In other international cultures, greater emphasis is placed on collectivism which is much more conducive to stewardship (Davis, Schoorman and Donaldson, 1997).

Furthermore, the study is conducted in evaluating the perception of high performing research organizations, focusing on the type of research that occurs at the national laboratories. Research, in general and in this context, is intended to be broadly beneficial to the scientific community and to society as a whole. Researchers themselves are highly motivated individuals who are primarily motivated by their research and the potential outcome, which in this context, is integral to the DOE's mission and the mission of the national laboratories. This altruist view of the subject matter may make the results less generalizable to other contexts. However, this research included greater emphasis on general operational aspects of the laboratory than scientific operations to minimize this bias. Thus, key areas such as business systems and environmental safety and health were selected for the interview focus rather than those individuals whose focus was in performing the underlying research.

Chapter Summary

In summary, the study design and methodology was selected for the purpose of exploring the perceptions of the participant and giving voice to their opinions and values. This approach to the research was particularly useful for this study in order to ascertain an in-depth appreciation of the participants' experiences (Yin, 2011). This design approach provided the participants an open-ended format in which to freely share

their experience in the contractual relationship (Yin, 2009) as well as allowed a method for identifying relevant issues to be used in the data analysis. This methodology chapter included an introduction and overview of the chapter and its content and a restatement of the research questions. Further, this chapter provided a detailed description of the sampling procedure used for the interviews and the multiple case study selection, information about the data requirements, the research design, data collection methods use and the data analysis and synthesis method.

CHAPTER IV

RESULTS AND FINDINGS

Introduction

As government outsourcing continues to grow as a trend, managing contractor relationships is a critical aspect of outsourcing. For public managers, understanding what factors influence the contractual relationship is a key aspect to obtaining contractor performance. It is also important in reducing the transactional costs associated with contractor management including the costs of providing oversight and the costs associated with the acquisition process. Understanding the perceptions of the parties related to the contractual relationship is a critical part of contracting success. Individuals in leadership positions within organizations who are part of the contracting relationship form the basis for organizational culture and organizational performance. Understanding the perceptions of these individuals who have the capacity to influence organizational performance is critical to a successful contractual relationship.

All government contracting relationships exist along a continuum between transactional contracting and relational contracting. Fundamentally, the relationship is one of principal-agency, where the government actor or public manager, usually a contracting officer who leads the team is the principal and the contractor is the agent. This is the basis for the vast majority of contractual relationships. However, once executed and throughout the period of performance of the contract, the relationship may move along a continuum from primarily a principal-agent relationship to principal-steward relationship, with the latter being a more collaborative contractual relationship. This move from a purely transactional nature where the relationship is dependent upon

the terms and conditions of the contract and incentives and sanctions for performance to a collaborative relationship with mutual goals and objectives is likely to yield improved contractor performance. Thus, based upon the literature, government contractor performance is, at least in theory, based upon multiple dimensions that include relationship the contractor has with the government and vice versa as well as the specific terms and conditions of the contract itself. (Van Slyke, 2009; Lambright, 2008, 2009; Amirkhanyan, Kim & Lambright, 2010, 2012)

This chapter sets out the findings of this qualitative study. The results and findings are presented in two parts. Part I provides the analysis of the four cases studied that looks at the research question holistically, but with a focus primarily on communication and information sharing. Communication in the contractual relationship is the primary manner in which information is shared between the government and the contractor. Information sharing is a critical aspect of the relationship leading to trust, transparency, goal alignment and goal achievement. This further builds on various aspects of the relationship such as respect and delegation of decision-making (autonomy). In this section, the results of the analysis of records and interviews of the four national laboratories are discussed. The record analysis included a review of performance scoring trends for each goal and the narrative explanations of the scores provided by the government to the contractor. This approach allowed the researcher to evaluate, using a systematic approach across all of the case studies, when a scoring trend indicated a decline in performance based upon the score the laboratory received, the potential cause of the declining score. In this approach, the narrative evaluation was analyzed in detail for specific themes related to communication as well as other themes

to determine potential reasons the government gave the laboratory a low performance score. In addition to looking at the year in which the low score occurred, the year before the low score was evaluated, as well as the subsequent years to determine if improvements in performance were noted, if the feedback was utilized by the contractor to improve performance, if other changes were noted by the government as influencing the performance score (e.g., changes in laboratory leadership) and if the overall scores in the subsequent years improved. This multiple case study analysis approach provided insights into how communication and other factors, as stated in the narrative perception of the evaluator, translate into the performance score and performance evaluation process.

In Part II, the results of the semi-structured interviews conducted are reported to highlight perceptions and explore for research purposes, a comparisons of the perceptions of the parties exist and emerging themes in the results. This information provided useful insights from both the government employees providing oversight of the government contract and the contractual leadership who operate the laboratories under the contract. Specifically, this information explores the questions about the perceived factors that motivate contractor performance, the perceived levels of trust and how the relationship between the government and the contractor is perceived to have evolved over time.

To recap, this study has been guided by the following research questions:

1. How does the perception of the relationship between the government and the contractor, as agent or steward, influence the government-contractor relationship and ultimately the contractor's performance?
2. To what extent do the parties perceive that information is shared in the government-contractor relationship?
3. To what extent do the parties perceive the level of trust that exists in the relationship?
4. What factors do the parties perceive motivate the contractor's performance?
5. How do the parties perceive that the relationship has evolved since the beginning of the current contract period?

Case Study Results

The following section introduces each of the four laboratories studied in the research with a look at the characteristics of each laboratory, its demographics and other factors as a part of the case study analysis. For this research, four individual laboratories were studied to determine how the perception of the government-contractor relationship, as agent or steward, influences the contractual relationship and ultimately influence performance scores. Each of the four laboratories is a part of the DOE Office of Science national laboratory program; however, to preserve the anonymity of individuals who participated, the names of the laboratories have been removed. These four laboratories were selected primarily based upon the availability of information, specifically interviews with both the government personnel and contractor personnel and archival documentation, including the narrative information included in the evaluation process.

Facts related to specific events and demographic information related to the laboratory have been generalized to protect the participants in the study.

Laboratory A

Background. The first laboratory reviewed is a laboratory with considerable funding, reported as greater than \$1.5 million in funding from various sources, including the DOE. Additional support for the operation of the laboratory is provided by state and local government. The parent of this laboratory is a non-profit organization and the contractor organizational leadership has remained unchanged during the past decade.

The DOE local site office did experience a change in leadership during the past decade. As a part of this case study, interviews were conducted with laboratory contractor leadership and government oversight. These same interviews are a part of the interview analysis section. The current contract has been in place for at least a decade with the same contractor and it is expected to continue for twenty years (four five-year award terms). Thus, as of this research period, the current contractor has been working for approximately ½ of the full contract period. The government personnel interviewed were active participants in both providing laboratory oversight and in the annual laboratory review process (PEMP). The staff in the DOE site office is fairly limited, co-located and representing fewer than 20 people on site.

Communication-Government Personnel. From the government's perspective, the participant reported that communication was critical to the relationship, with frequent (daily) communication with contractor staff. The modes of communication included meetings (face-to-face), phone calls and email, with a considerable amount of

information exchanged via email. As reported, there is formal written communication; however, this is not relied upon for the principle mode of communicating with the contract. The current modes of communication, both formally and informally, are perceived by the government participant as effective. In addition, it was reported that being co-located, being right onsite with the contractor personnel, was a positive and necessary aspect of the relationship, particularly to maintain good communication and provide oversight.

“It’s very easy given that we are right here on site in our federal role of providing stewardship and oversight at the laboratory and managing the contract. It’s effective. That suite, that whole full suite from the informal discussions and talking while out in the field or talking while passing the hall or more formal meetings all the way up to the full spectrum of a formal letter from me as the contracting officer representative or the manager of the site office to the laboratory. That full spectrum is useful because it gives different choices on what communication mechanism you might want to use depending on the significance or the importance or the formality of whatever the action or requirement or issue is that you’re dealing with.”

When asked about the adequacy of information sharing, it was reported that the flow of information was good, with open access into data and information systems that are owned by the contractor to obtain information as necessary about schedules and activities.

“Our contract requires transparency and our contractor is transparent with us. They communicate openly and share information and we have what I would consider full access to the information we need.”

Providing feedback on the contractor’s performance under the contract is an important aspect of the relationship, as well as a contractual requirement under the PEMP.

Formally, the PEMP requires semi-annual performance reviews with discussions between the government and the contractor. However, frequent feedback provides the contractor with the opportunity to make timely changes or improvements based upon the feedback in order to attain the goals, objectives and notable outcomes.

For this case study, the government participants stated that they provided feedback to the contractor at various times throughout the year, at least quarterly. This approach is beyond the contractual requirements.

“We provide them some feedback at times. If we think additional attention needs to be paid to this aspect or to this requirement, or to this commitment or to this upcoming challenge, or whatever, maybe we give them that feedback as well. So it’s not only looking backwards over the previous quarter or portion of the year that they performed on, but also trying to give them feedback on upcoming aspects of things, too, with regards to the way we expect them to perform.”

Communication – Contractor Personnel. The perceptions and opinions of laboratory contractor personnel at this laboratory were, for the most part, closely aligned with the perceptions and opinions of the government personnel about the relationship. When asked during the interviews about communication and adequacy of communication, the laboratory contractor personnel indicated that the current levels of communication with the government’s local site office and with DOE Headquarters for the purpose of operating the laboratory was sufficient. This included the informal and formal types of communication that occurred on a routine and regular basis. It was noted that many of the informal communications were primarily to establish the proper vehicle or strategy for formal communication, such as the case in reporting safety incidents at the laboratory. For example, negative information may be reported by the

contractor to the government in an effort to give a “heads up” to some more formal incident reporting.

In addition, the motivations for performance of the contractor as reported by contractor laboratory personnel were primarily the alignment of the mission of the laboratory with the expectations of the DOE and maintaining the reputation of the laboratory, both as perceived by the DOE and the external scientific community. The laboratory personnel at this laboratory perceive that the DOE values their input in seeking out suggested notable outcomes as a part of the PEMP process. This input is perceived by the participant as an important indicator of both the respect that the government personnel have for their staff in operating the laboratory and trust in the decision making aspects of operating the laboratory. Consistent with this line of thinking, the contractor participants at Laboratory A stated a belief that their role and responsibility is in operating the laboratory in a manner consistent with the DOE’s mission and objectives.

Trust in the Relationship. The government participant interviewed was keenly aware of the need to engage in personal observation from time to time, to obtain information about laboratory activities. This was perceived as an inherent part of the oversight role of the government over the contractor. Along with this discussion, the issue of trust was raised and the perception is that “we trust, but verify”.

“So we use those opportunities to validate and verify with our own observations that is what we are reading about (in reports or communications) or seeing or what the contractor is sharing with us is accurate. We trust but verify, we check the information through our own observations and we’re here day in and day out. It’s hard to keep secrets and it would be fairly rare that something of any significance would

happen and someone on my staff wouldn't be aware of it or hear about it or be involved in working on it, whatever the activity or the function or the aspect of the day was."

Autonomy and Decision making. On the issue of autonomy and decision making, the government participant acknowledged that a number of DOE requirements dictated the types of decisions that could be made by the contractor and the types of decisions that could be made by the agency personnel. At the same time, and of significant note, were comments that were made about the Contractor Assurance Program. At Laboratory A, the government participant cited the Contractor Assurance Program as an opportunity for the government to provide procedural oversight while allowing the contractor a particular degree of autonomy in how activities at the laboratory were carried out.

"There will be a set of requirements we'll have in our contracts. That's what they go off and they decide what they want to put in place for a quality assurance program primarily to manage the quality of their output and their products and services. They'll document that appropriately. They'll make sure it touches on and meets the criterion that we've set up for the contract. They'll put the description document together and because we have to approve it, they'll deliver it to us formally as a deliverable on the contract. And we will evaluate it, review it and ultimately approve it. If we have concerns or comments that it doesn't meet all of our requirements, there may be back and forth dialogue or we may send it back to them formally with some comments, initially, until they get something that we believe does meet the contract requirements. Then we'll approve that program. Then, we expect them again to operate their quality assurance program in accordance with that description that they have given us to document it."

An important element of agency versus stewardship is the level of direction the principal is providing routinely to the agent (autonomy) in meeting the stated goals and objectives as well as the level of oversight provided. The government participant at

Laboratory A provided some insights as to whether the contractor was often working within or outside the scope of activities under the contract or if the contractor required specific direction when engaging in activities. This is an important aspect of understanding the nature of the relationship, whether the government personnel perceive the contractor as simply acting as an agent (within the box) or as a steward (aligning the contractor with meeting the agency's needs). If the principal perceives the agent (contractor) more as a steward than simply an agent, the principal may delegate more activities and allow for more autonomy in how activities are pursued. This was reported by the government participant as occurring as follows:

"I think there are times through our meetings or our discussions where they'll inform us and they'll talk about something that they're working on to achieve or develop or whatever and we'll have a meeting, we'll talk about it. We feel free, I and my staff feel free, if we have something we think we're going to add as far as value to the conversation, such as 'Well, have you considered trying to design or implement that change this way?' or something, we'll of that up. This contract takes that (feedback) to heart. They listen. I feel they listen very well. They then do their own due diligence to think about it, consider it and then they make their decision on whatever it is we might have thought about or suggested or added in the conversation as we're working something."

Thus, at this laboratory, the government personnel felt the level of decision making delegated to the contractor was adequate given the constraints of the DOE contract and the DOE system requirements. On many operational issues, the government personnel commented positively about the contractor's oversight, specifically citing financial management, accounting and other business areas as well managed. It was noted in commentary that the government and contractor shared mutual goals and objectives in managing the laboratory and were motivated in similar

ways by meeting those goals and objectives. The mission, it was noted, was of importance to both the government and to the contractor and thus indicating that the contractor practice good stewardship over the laboratory and over the contractual resources.

Performance Score Analysis. From a review of the archival documents, including the performance reports from the period of 2009-2014, additional information about the performance scores at this laboratory was obtained. This information is available to the general public. The charts below identify the scores for the science goals (Goals 1-3) and the business operation goals (Goals 4-8):

Figure 4 -Laboratory A Performance Scores (2009-2014) Goals 1-3

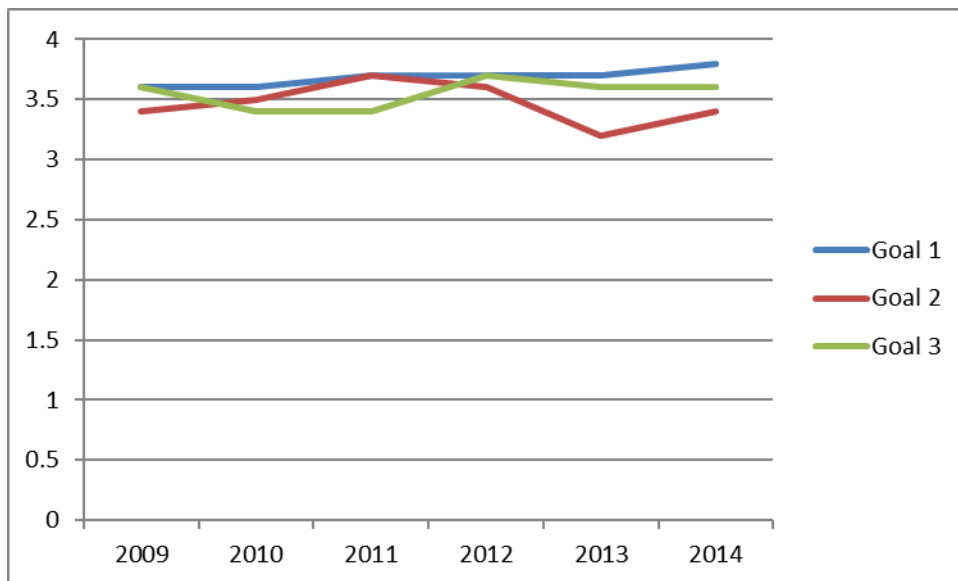
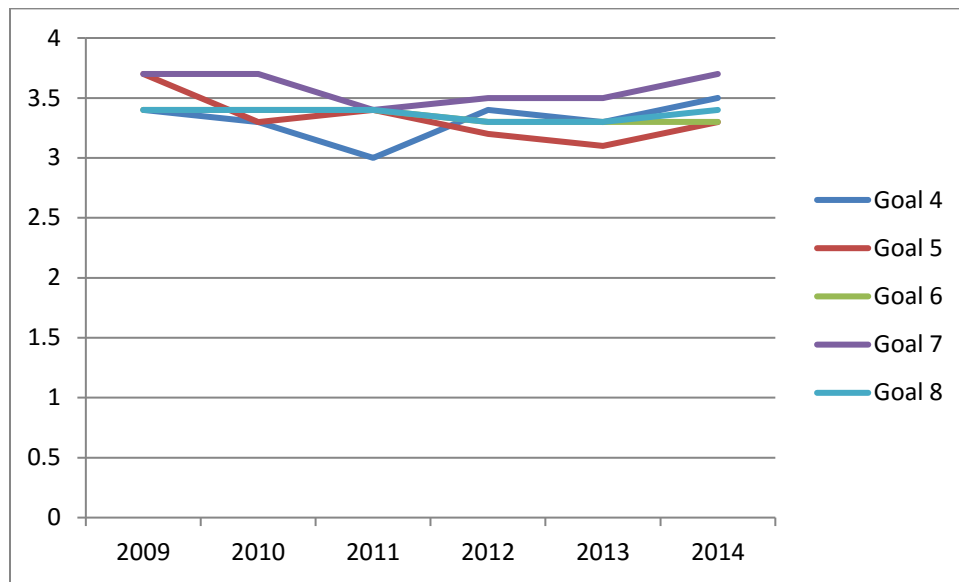


Figure 5 - Laboratory A Performance Scores (2009-2014) Goals 4-8



From this information, a review of significant variations in scoring provides further insight, from the government reviewer’s perspective about aspects of the relationship and how those aspects of the relationship might impact performance. For example, there was a significant change in the score from 2012-2013 on Goal 2, Provide for Efficient and Effective Design, Fabrication, Construction and Operations of Research Facilities, a decline from a 3.6 to a 3.2 (-0.4). The primary point of evaluation for this goal is the management of the ongoing construction projects at the laboratory. This includes management of the technical progress to established timelines as well as costs. Additionally, this goal is noted as evaluated based upon “performance during project reviews and effectiveness in responding to review recommendations”. In this instance, performance regarding this goal required considerable government oversight and intervention on the progress made on a project for equipment upgrades and the acquisition of major capital equipment at the laboratory (PEMP, 2013). DOE’s final approval of project plans and baselines was provided near the end of the fiscal year

(September, 2013). Of note, in the narrative, was the comment by the DOE that there was a need for the Laboratory to develop a “defensible cost estimate to complete the project, initiate proactive oversight of the vendors for an integral part of the system and establish sufficient expertise in house...” (PEMP, 2013). These comments portray a lack of confidence by the DOE Office of Science Headquarters in the Laboratory Contractor’s ability to manage the project without additional oversight and guidance and to meet the specific requirements without additional guidance from the DOE Office of Science. For this particular goal, not only was the deadline missed but the comments reflect a lack of progress and initiative in meeting what the DOE Office of Science Headquarters perceived as an important goal.

In addition to the Office of Science evaluation for Goal 2, a review of local site evaluations for the remaining goals provided additional insight. For example, between 2010 and 2011, there was a decline the score from 3.3 to 3.0 for Goal 4. Goal 4, entitled “Provide Sound and Competent Leadership and Stewardship of the Laboratory”, is a significant goal in the operation of the laboratory as it reflects the contractor’s leadership capabilities in overall operation and leadership of the laboratory. This includes the responsiveness of the Contractor to issues and opportunities for continuous improvement of laboratory operations as well as the commitment of the parent organization to the overall success of the laboratory. Input for the evaluation of this goal is provided not only by the DOE Office of Science in Washington but also by the local DOE Site Office.

In 2010, the laboratory received a score of 3.3 (B+) on this goal. Of note in the 2010 performance evaluation narrative are comments about the need to improve both communication and transparency, including seeking Site Office input as appropriate.

Additionally, it was noted that a new Contractor Assurance Plan was presented to the government and implemented during the period. In 2011, however it is noted that the score declined, from 3.3 to 3.0. In reviewing the narrative comments about the Laboratory Contractor's performance during 2011, several themes emerge related to this goal. First, it is noted that there remains a communication issue between the goals and objectives that the DOE Office of Science has for the laboratory and the goals, objectives and plans envisioned by the Contractor for the operation of the Laboratory. This appears to be the case despite the senior management team for the Laboratory presented a ten-year plan for its vision of the laboratory. The following narrative performance comments exemplify this communication disconnect:

"The compelling future vision seen by SC for the lab is demonstrated through the very significant investments that SC is currently making the necessary equipment upgrade to the existing facility. The upgraded facility promises world leadership for a decade or more after it's commissioning and will significantly contribute to our understanding of the ongoing research. However, we note that SC has stated several times, most recently at the FY 2011 laboratory plan meeting in May of 2011, that we do not support goal of establishing a different user facility at this site." (PEMP, 2011)

One interpretation of this statement is the lack of sharing of mutual goals for the laboratory. In this instance, while senior leadership for laboratory provided its 10-year plan, the DOE's vision differed. This difference is reflected in the performance score for the laboratory as the DOE, as the principal had communicated its vision, as well as its goals and objectives for the laboratory. This lack of a shared vision is one element of the principal-agent relationship, where there is evidence of a lack of goal alignment.

An additional area where similar themes prevailed is in looking at the trend of performance scores for the laboratory for Goal 5, specifically for the period of 2009 through 2013. Goal 5, “Sustain Excellence and Enhance Effectiveness of Integrated Safety, Health, and Environmental Protection” is a critical element of laboratory operations, covering all aspects of the laboratory work environment from employee health, safety and welfare to laboratory waste and pollution management. During this period, the performance score for this goal dropped significantly, from 3.7 to 3.1 (-0.6). This essentially from an A to a B, which constitutes a significant decline the PEMP system for the national laboratories. A review of the narrative evaluation comments for this area, reveal interesting themes related to the perception of the relationship by the government. First, it should be noted that between 2009 and 2010 there was a change in DOE Site Office management. The impact of this change can be seen in the re-occurring themes found in the performance evaluation, particularly for this goal. For example, communication between the DOE Site Office and the Laboratory Contractor is a recurring issue that is reflected in the score achieved for this goal between 2009 and 2010. This is evidenced in the narrative comments for Goal 5 below:

“At the end of the first Quarter of this fiscal year, the Department engaged the Laboratory to help improve communications between our organizations, specifically within the ES&H functional area. Since then, incremental improvements have been noted in this area. It is hopeful that this trend continues, thereby support the mutual trust necessary to fully implement CAS.” (PEMP, 2010)

The theme of “trust”, e.g. rebuilding and restoring “trust” in the relationship continues in the narrative for this particular evaluation period and particularly for this important goal. Another example cited is based upon the Laboratory A’s self-

acknowledgement of a problem or issue prior to the DOE's notation in the performance review process. Thus, the following comment was made by the evaluator related to this issue:

*"The Laboratory's decision to declare a Recurrent ORPS condition following a series of excavation related utility strikes is regarded by the Site Office as a **prudent acknowledgment** of a program vulnerability. It is clear that these events not only have the potential for significant ES&H consequences, but also directly impact the science mission and project schedules. It is important that a **high degree of transparency** be sustained between the Laboratory and the Department for future utility strike investigations, trending, causal analysis and corrective action development." (PEMP, 2010)*

Although in reviewing the performance scores trends for this goal during the period under review, minor increases are noted with again decreases between 2012 and 2013. The evaluator noted improvements in performance, but continued to note concerns in 2012 about oversight of subcontractors working on site in compliance with safety regulations. Notations were also made about increased safety events as well. This is noted further in 2013 evaluation and reflected in decrease in score for this goal. While applauded for the laboratory's "self-identification" of the performance issue, it was noted in performance narrative and evaluation as a failure to meet an expected goal. This is stated as follows:

"The Laboratory has self-identified a negative performance trend in work planning and control (WPC) and initiated action to improve performance. The performance outcomes demonstrated by the increasing rate and severity of operation occurrences and events did not fully meet expectations. The proposed actions to help improve WPC performance through a combination of defining expectations through field interactions, and conducting a WPC assessment in FY 2014 are considered to be a prudent and balanced approach." (PEMP, 2013)

The themes identified here are consistent with the perception that the contractor requires a level of oversight in this area that is more commensurate with agency rather than stewardship. The narrative comments reflect an acknowledgement, however, of the Laboratory contractor's willingness to proactively seek out solutions and to implement strategies that will enable it to meet the goals, objectives and expectations of the principal (DOE).

Laboratory B

Background. The second facility analyzed as a part of this case study is operated by an academic institution and serves as a leading international resource in particle physics. Funding for the various programs at the laboratory exceeds \$350 million in general annually from various sources, including the DOE. The staffing consists of approximately 1,600 full-time personnel with close linkages to the parent institution. Leadership has remained relatively stable for the government personnel managing the DOE Site Office at the laboratory. Of significance on the leadership issues at this laboratory is that during the last decade new leadership occurred with contractor personnel. This allowed for the parties on the parties to develop a relationship during the period. However, additional changes were made in the leadership of the Laboratory Contractor during the period when the Laboratory Director retired. The impact of these changes, at least in part, can be viewed in the issues discussed below.

Communication-Government Personnel. In evaluating the issue of communication, based upon the interviews both the government personnel and the contractor personnel stated that the levels and forms of communication were adequate;

however, the government personnel noted that it was not always the case at this laboratory. The government personnel noted that the longevity in his oversight at Laboratory B has improved communication between the parties over the past several years. He also noted that communication is often a “learned behavior”, citing the following example of what “communication as a learned behavior means”:

“So, we had an event that occurred at the facility and with this event there was a clear misinterpretation as to the significance of what had occurred. The contractor staff at the laboratory either misinterpreted the facts or misstated the facts that happened. When asked about the facts, the contractor decided not to accurately report the event because of reporting requirements. As a result, I said, “Well, we’re going to have to get over that really quick.”

To overcome these “learned behaviors” about communication and establish a different paradigm for communication between the government and the contractor, the Site Office personnel commented that it took time and effort on both parts, viewing communication as a two-way street, to work at “being transparent, being honest” in order to build consensus about what was happening at the laboratory. This, it was noted, as building trust in the relationship as well between the parties. Further, it was noted that “not overreacting” when receiving negative communication from the contractor or in contractor incident reporting, was helpful in both building overall relationship communication and in building trust in the relationship. However, the government still perceived there was a need to hold the contractor accountable simultaneously for activities that are required under the contract.

Communication - Contractor Personnel. The contractor personnel at Laboratory B had similar views about communication with the government in many aspects, also

noting that over time, the communication has improved. One participant noted that during his time with the lab, others who had been working there longer would reference prior periods where there was a lack of communication completely or at least minimally between the government and the contractor. This often resulted in less than favorable evaluations and a lack of collaboration in the relationship between the DOE and the Laboratory. This is noted in the following comments, from the contractor's perspective:

“The model that we've got in place here is my understanding, as opposed to when I first started 8 years ago, it's certainly different than when I've heard my colleagues talk about. It's much more of a partnership relationship. They are responsible for doing contract oversight. But we get them involved a lot earlier to recommend things we want to do, or issues that are cropping up and actually work with them on solutions rather than having them coming after the fact of second guesses.”

This comment highlights both the evolution that occurs in the relationship between the government and contractor as well as the perception of the contractor that communication is critical in the maintaining a good relationship with the government. Communication with the government was also perceived by the contractor participants at Laboratory B in the study as a way to head off performance issues “sooner rather than later” to allow sufficient time to make corrections or changes in performance in order to meet expectations.

Finally, communication, particularly the request for input on notable outcomes and the incorporation of the input from the contractor into the PEMP by the government was perceived by both the contractor and government as a positive aspect of the relationship and was viewed as a form of joint stewardship over the laboratory. It was

noted, however, by government personnel that such input, while desirable in general and viewed as valuable, was not mandated as a part of the form PEMP process.

Trust in the Relationship. Similar to communication, the perceptions about trust are unique at each Laboratory, including Laboratory B, and are based upon numerous factors in the government-contractor relationship. Trust appears in the relationship with the principal's ability and willingness to delegate decision making, allowing the contractor to operate the laboratory with some degree of autonomy and with the understanding that information provided by the contractor to the government is complete, accurate and transparent. Trust is described as "not an automatic" in the relationship and is established after numerous other factors in the contractual relationship have been established including adequate communication and information sharing.

At Laboratory B, the longevity of the DOE Site Office personnel in providing oversight to the Laboratory Contractor is important to note in the perceptions about trust at the site. The DOE Site Office personnel interviewed provided considerable insights into how "trust" factors into the relationship with the laboratory leadership and into how that translates into performance. Specifically, the fact that DOE Site Office personnel are physically located on site was helpful in establishing trust in the relationship and ensuring common perceptions about laboratory operations. Additionally, the DOE Site Office personnel also noted that, to a certain extent, the parties to the relationship had to become "vulnerable" to each other in the relationship in order to make the relationship work. In this context, becoming vulnerable in some aspects meant stepping away from

the formal roles and responsibilities. This “vulnerability” was perceived as building trust in the relationship.

“In order to develop some trust, people are going to have to become vulnerable. And so it was said, “You became vulnerable. You put your reputation on the line for us so that we didn't have this, all these people checking the checkers and all this oversight come in.” And it was also said, “You became vulnerable and I learned to trust you,” and I said, “I had no choice in the matter, I just had to trust you,” because I thought the individual was a good person.”

Furthermore, on the issue of trust in the relationship, when there were issues of trust, from the contractor’s perspective at Laboratory B, the issues of “trust” were perceived as resolvable by working together with the DOE Site Office personnel through a process of consensus decision making. This required “open and frank discussions” and the ability of both sides, in particular the contractor, to be perceived as transparent in communications. This was evident in conversations with both the study participants who were part of the leadership of laboratory from the contractor’s perspective and from the participants who provided insight from the DOE Site Office (government) view point.

“...every now and then, a situation might pop up where there is a difference in opinion. So, I believe we've always worked through that. A lot of what ES&H involves obviously interpretation of codes and requirements, some of which aren't always clear. So, we may start out on with different opinions into what that looks like. But I actually can't think of a situation where we've not come to a reasonable agreement on what that means for the operations and how we are going to handle it.”

Autonomy and Decision making. Autonomy and decision making are aspects of the government-contractor relationship and reported as significant on both sides of the relationship for the personnel who participated in the study from Laboratory B. For

government personnel, the limited resources available for providing oversight was acknowledged as one of the main reasons the government must rely on the contractor in operating the laboratory and in making sound decisions. Thus, the government's oversight mechanism is limited in two aspects including its on-site presence in the DOE local site office and in its role in operating the laboratory. With regards to the roles, the need to rely upon the contractor to make the necessary decisions in operating the laboratory was clear:

“So we rely on a lot of smart people from these institutions to put their collective brains together and what we want out of these laboratories is outstanding research. And on the research side, I would just say the rest of the world is trying to put together a National Laboratory complex that we have here in the United States, and that's a combination of the National Laboratories that are essentially operated by world-class institutions, world-class research institutions, whether it's University of Chicago, University of Tennessee, New York University, Stanford, Berkeley. And so that is something that we worked hard on to get these world-class research institutions to run our laboratories.”

“What we don't want to do is get into the day to day management of the laboratories and day to day transactions. We (DOE) are here to do the oversight to make sure the government's assets and government's interests are maintained.”

As identified at Laboratory A, Laboratory B personnel also perceived the ability to delegate more oversight responsibility to the contractor as limited by statutory requirements in both DOE statutes and the M&O contract. As noted in the discussion, government personnel perceived that the division of responsibilities between the government and the contractor for the operation of the laboratory was appropriate at the current level. When probed further about activities that might be delegated to the contractor, government personnel could not identify anything that is currently occurring at Laboratory B, with the exception of the newly implemented conference approval

processes that exist at the government. It was further acknowledged that decision making on many aspects of the work that goes on at the laboratory is not done in a vacuum. Instead the government and the contractor seek out the advice of others, including in the scientific community on what activities should occur at the laboratory, particularly the scientific activities that are proposed.

The contractor personnel who participated in the study expressed the perception that for the most part, the decision making of the government in the operation of the laboratory was appropriate. In one instance, the study participant stated the following:

“So they rely on us as the contractor to make the decisions. And if they disagree with the decisions we make, they will certainly let us know. But ultimately, it's our responsibility to make those decisions that are necessary as the contractor. If something is a decision that is a show stopper, or something that might violate the contract or a regulatory issue...they'll put their foot down. But that's happened much less and less over the years.”

There also was an acknowledgement of constraints placed on the government personnel to further delegate authority or provide additional decision making to the laboratory contractor. One participant at Laboratory B cited that the government is an “ally” with regard to decision making when regulatory road blocks are encountered and went a step further in citing a willingness of DOE Site Office personnel to serve in the role of advocate to achieve certain goals and objectives when necessary due to regulatory constraints.

“They rely on the lab to hire the right expertise and subject matter experts to run the programs. They've eventually been a pretty good ally in terms of helping make things happens, particularly when we run into roadblocks internally.”

Contractor participants in the study at Laboratory B also acknowledged the role the DOE Headquarters office plays in oversight of the laboratory and of the DOE Site Office. The contractor personnel recognized the distinction between the two DOE roles and importantly that at times, were sympathetic to the DOE Site Office with having to place unnecessary (or inapplicable) constraints on the contractor. The following example was cited by one contractor participant as an opportunity for the contractor to work with DOE Site Office personnel to resolve a conflicting mandate:

“My favorite example ... was when the Office of Science was going to send their folks to do a complete assessment of our program, because they had not done one in about 4 or 5 years. They sent over their standard questionnaire which was 3,500 questions long, of which about 3,400 were not applicable to us. The Site Office kind of interviewed us as the contractor and reduced this to what was applicable to us and what made sense. So, it was an area where we needed to make the stand on the sidelines on the issue once you have interaction.”

Performance Score Analysis. The following details the significant trends in performance evaluation scores for Laboratory B during the period of 2009 through 2014. These are separated into two categories, Goals 1-3 and Goals 4-8.

Figure 6 -Laboratory B Performance Scores (2009-2014) - Goals 1-3

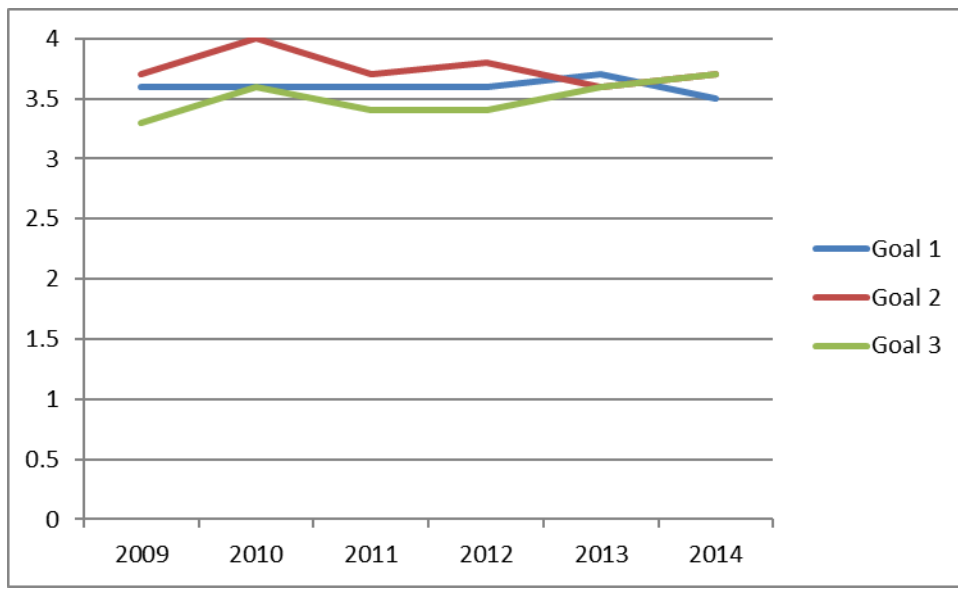
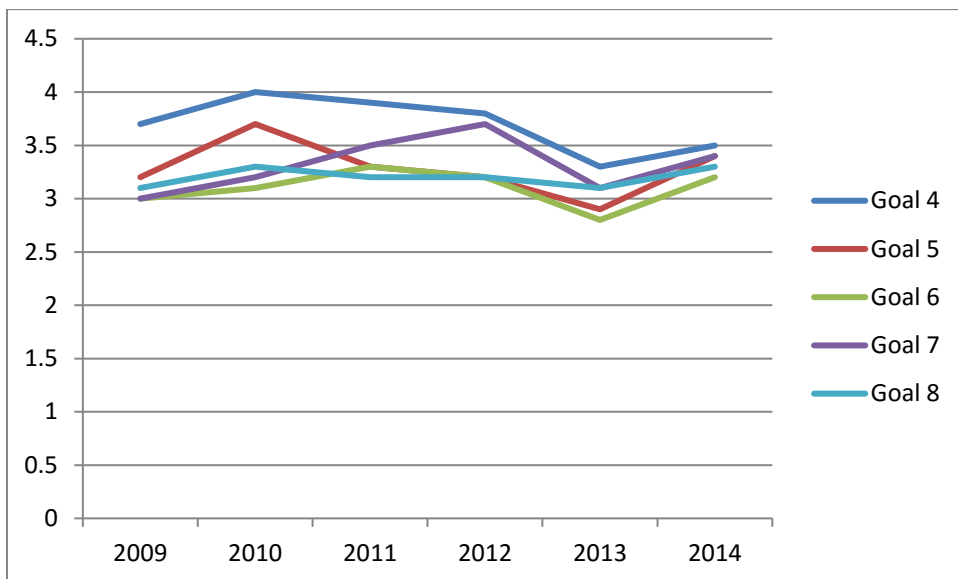


Figure 7 - Laboratory B Performance Scores (2009-2014) Goals 4-8



For Goals 1-3, the performance evaluation scores remained relatively stable with little fluctuation or variation in the scores. In evaluating this trend with the other laboratories in the study, this frequently occurred for Goals 1-3 where the scientific goals and objectives were evaluated. The comments that were made in performance

narratives about Goals 1-3 for Laboratory B were highly complementary in 2009 and the performance scores reflect a congruence and alignment of the DOE Office of Science Headquarters office in Washington, which primarily conducts the evaluation for these goals with the laboratory scientific contractor management. This is also demonstrated with consistently high scores in efficient and effective mission accomplishment (Goal 1) at Laboratory B. The scores also remained very high in the operation of the facility, Goal 2, which is critical to laboratory performance success.

However, during the six-year evaluation period, there was a change in DOE Site Office leadership. With this change, as in many other changes on either side, there was some fluctuation and downward trending in performance scores. Specifically, this change is reflected in the scoring with a downward trend in 2010 and in 2011 for Goals 1-3. This potentially could be the result of changes in the evaluator, some changes in the evaluation process as well as changes at the laboratory management team itself which may have occurred. This is reflected in performance narrative comments from the DOE expressing a need to improve communications. Of note, Laboratory B engaged in long term strategic planning with the DOE during this period. Several comments were made in performance narrative about the Laboratory contractor personnel being aligned scientifically with the mission, vision and goals and objectives of the DOE during this period as well.

With Goals 4-8 for Laboratory B, there are similar trends demonstrating where changes in the evaluator and the evaluation process likely impact the Laboratory B performance scores. After a period of change and transition that is noted in performance evaluation narratives, the comments are very positive from evaluators indicating the

perception, through scoring, that performance expectations are being met by the Laboratory B management team. The laboratory is described by evaluators as “well-run” and “highly efficient” in its operations. There are also narrative comments that indicate the evaluator trusts senior laboratory management in its operational oversight of the laboratory. The scores reflect performance improvements were implemented in key areas of concern where the laboratory was previously rated low. This indicates that as the relationship duration increased and delivery on expectations occurred, the relationship improved between the parties. Also, there were increased levels of trust with a performance outcome that included higher performance ratings and scores.

Laboratory C

Background. The third laboratory analyzed as a part of this research is a national laboratory which employs approximately 400 employees with approximately \$82 million in annual revenues. As a small laboratory, the focus of Laboratory C, like other federal laboratories within the DOE infrastructure, is highly complex and inclusive of such scientific foci as plasma and fusion energy sciences. It also maintains considerable collaborative efforts with outside entities, user facilities and supports a number of major DOE initiatives. The leadership for the contractor has remained relatively stable, particularly during the period of this research and evaluation. There was a change in DOE local site office management during the period, with the Site Office Manager in an acting capacity. This change may be reflected in the scores during the evaluation period.

Communication – Government Personnel. As noted previously, communication is important to the relationship between the contractor and the government. The onsite presence is perceived by the government as important in facilitating communication between the government and the contractor. Personnel at all levels of the government are essentially “embedded” with contractor staff in support of laboratory operations. Formal communication is acknowledged as ensuring the requirements of the contract are met, including the semi-annual laboratory performance review process. The formal communication also is a requirement in providing feedback on laboratory operations. Informally, the Laboratory C Site Office meets with laboratory leadership at various levels and for various purposes. Specifically identified was an informal meeting that occurred at least twice weekly with laboratory leadership where the critical issues of the day were discussed. This meeting was primarily to discuss these issues in depth and to evaluate the proposed strategies for handling the issues with key members of laboratory leadership. According to Laboratory C Site Office, the informal meetings afforded a degree of transparency in the operations as the contractor can seek advice and input from the government and provide information to the government informally. Therefore, between the on-site presence and the informal communication, the Laboratory C Site Office indicated that at the present time, they are able to fully obtain information about laboratory operations, making the information exchange complete. This was not always the case however, a point made very specifically by the Laboratory C Site Office personnel under prior contractors.

Communication – Contractor Personnel. The perceptions of contractor personnel were in some ways similar to the government personnel about

communication. It was acknowledged that it occurred fairly frequently, particularly on an informal basis. More informal meetings were cancelled by government personnel when it was perceived that such meetings were unnecessary. The value of many of the meetings was for strategic planning purposes and discussing emerging issues occurring at the laboratory. It was also deemed an opportunity to provide to the government with “status checks” on critical projects, keeping them informed of any issues in order to prevent miscommunication later which may then appear in performance feedback. The contractor specifically stated that there is no information withheld from the government in the operation of the laboratory unless it was information that was considered proprietary to the parent in the operation of the laboratory. There is the sense of completely open communication about any issues that are specifically related to the contract.

Interestingly, in contrast to the government’s perspective, the contractor personnel did not perceive that it was a “requirement” to have the government personnel on site all the time since many oversight mechanisms are already in place with the M&O contract to provide enough information to the government about laboratory operations. This was cited as follows:

“I don't think it's necessary for the government to find out what's happening with the lab as long as the lab and the contract is put in place in the correct way and everybody is willing to be transparent I think it can work. I don't think they need to have that presence to have that kind of knowledge of what's happening at the lab, but it certainly doesn't hurt.”

“I do believe that we trust the site office and the site office trusts the lab at least to be transparent about information. I'm not sure whether or not the physical presence is as important as just the relationship building. So if we had a person who has a good relationship with us and shows up for one day a month but it's a good relationship, I think that could easily be a

very good, trusting open relationship. And if you have 50 people on site who can't stand each other, it's going to be a bad trust so I think it has to do less with the on-site presence and more to do with the relationship. My view has always been that open, transparent communications helped the relationship so that's what I've always favored."

Thus, the contractor perceived that adequate transparency and open communication exists in the relationship to not warrant a governmental presence on site.

Trust in the Relationship. For government personnel, trust was determined and articulated as a critical element in the relationship with the contractor. It was deemed fundamental for oversight of the funds and meeting the DOE's goals and objectives. The Laboratory C Site Office personnel perceive that the loss (or potential loss) of trust keeps the contractor motivated to maintain trust through adequate communication and information exchange and to continue to perform well under the contract.

"And for that to work well, we absolutely have to have trust. We have to trust that the contractor will have our best interest in mind. They know that if we lose our trust in them, or our confidence in their ability to manage, we're going to get into their knickers, and they don't like that and it's not a good thing."

Any withholding of information by the contractor was deemed by the Laboratory C Site Office as an effort to gather enough information to ensure it was complete when provided to the DOE and not a deliberate and intentional effort to withhold information. This delay was often perceived negatively by the Laboratory C Site Office personnel and was considered damaging to trust in the relationship as the information was ultimately discovered by the government from other means than the contractor.

Another important aspect of trust in the relationship is the obtaining of information from the contractor for the purposes of establishing notable outcomes. The Laboratory C Site Office identified this as very valuable input in the relationship and ensuring mutual expectations about performance.

“Setting a mutual goal, for example, that we can both achieve, that we know that they (the contractor) can achieve, and that is something we both want, is a good thing. Sometimes it may be necessary to put in a goal that's going to be difficult for them to achieve or maybe they don't think it's possible or possibly it doesn't jive with their priorities for what they want to do for the year.”

“Sometimes it's important in an objective discussion to know why the contractor thinks they can't achieve something or why they don't think it matches with their priorities, which presumably match with our priorities. So it's good to have that dialogue, but sometimes DOE will decide, ‘Well, that's not important enough to be a notable’.”

For contractor personnel, trust was also considered critical to the relationship with an acknowledgment that it takes time to build trust in the relationship and that there is a need to ensure that the level of trust is always maintained in the relationship. The potential loss of trust in the relationship was considered “not a good thing” for the relationship, in both the short term and the long term. Communication plays an important role in ensuring trust in the relationship for the contractor, with the adequate communication ensuring transparency which builds on trust in the relationship. Moreover, it was one strategy utilized to head-off performance problems, particularly on notable outcomes. The contractor recognized also that input into the notable outcomes involved in the performance process was in part due to the trust in the

relationship but also acknowledged that the DOE, while seeking contractor input, does not always accept all of the suggested notable outcomes from the contractor.

Autonomy and Decision making. For the government personnel at the Laboratory C Site Office, there exists the perception that the contractor is being paid for making the right decisions in the operation of the laboratory. This is the case even though it was also acknowledged that there are some decisions about laboratory operations that must be made by the government, either because of the statutory or legal mandates that exist or because of the level of risk to the Government involved. The Laboratory C Site Office personnel do not want to necessarily be involved in the day-to-day decision making at the laboratory and articulated specifically that this role of daily operational decision making is in fact the purpose of the contract.

"I expect that the contractor is going to be making decisions all the time and the decisions are going to be the right decisions. And I'm not going to have to get into the middle of telling them, "This is the right decision, that's the wrong decision." I expect them to make the right decision. And if they come over here and propose things that are wrong, that's a serious problem.

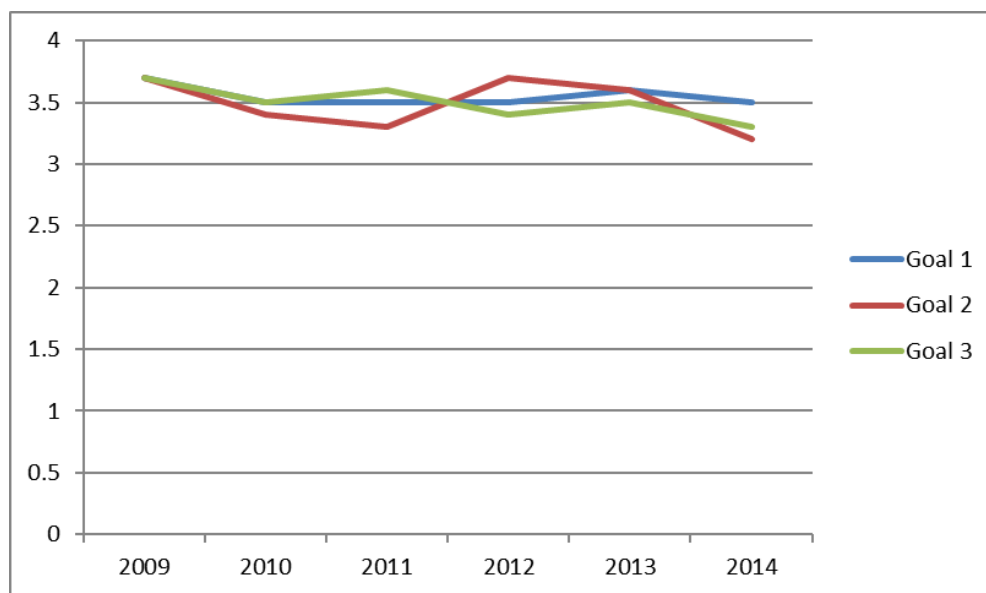
So I would come back to if we truly do not trust these contractors, there's a very fundamental flaw in how the business is supposed to work here. And we should get a new contractor if that were the case."

For contractor personnel, the levels of autonomy and decision making were perceived as heavily dependent upon the Laboratory C Site Office leadership (government personnel). For many decisions, contractor personnel found it necessary to document the rationale for the decision in the file, particularly when there are changes in Laboratory C Site Office leadership. Additionally, the contractor personnel recognized

that for many types of decisions, the level of decision making is detailed in the contract and in related DOE regulations and orders. For the gray areas of decision making that may exist, the contractor doesn't rely upon the DOE for authorization where it makes sense that decision making authority would rest with the contractor. When queried about the level of decision making that currently exists under the contract, the contractor responded that the level is appropriate but could be improved to allow the contractor more authority.

Performance Score Analysis. The following details the performance scoring trends for Laboratory C during the period of 2009-2014 for Goals 1-3 and Goals 4-8:

Figure 8- Laboratory C Performance Scores (2009-2014) Goals 1-3



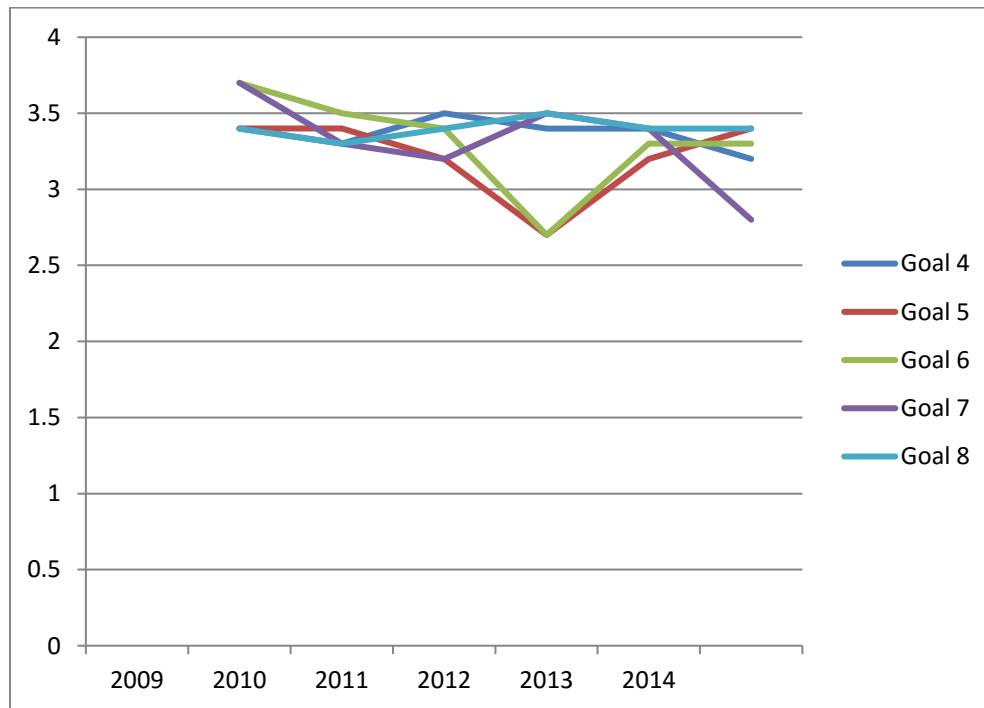
For Goals 1-3, an analysis of the performance trends reveals considerable change in Goal 2 during the period, dropping from 3.7 to 3.2 (-.5) with interim periods of fluctuation as well. From the narrative for the 2009 period, there were considerable accolades provided to the laboratory in its operations from the scientific perspective. In 2010, DOE Office of Science HQ cited only concerns regarding cost estimates for a major project that failed to meet approved baselines for performance. The score for this weighted goal alone caused a decline from 3.7 to 3.4 (-.3).

In 2011, there was a further decline in this performance score to 3.3. Reviewing the narrative, concerns were articulated about Laboratory C not meeting performance expectations due to a major equipment failure, which the lab subsequently decided not to repair. This caused considerable delays in the project operations at the laboratory. The DOE Office of Science comments for the evaluation period reflected an acknowledgement of the failure to meet established performance goals but also acknowledged the acceptability of the strategy proposed by the contractor to get the project back on track and the remedial plan for preventing this type of failure in the future.

In 2012, a return to a high score of 3.7 is found for Goal 2. In reviewing the narrative, the Laboratory C scientific leadership is again applauded for its operations of the laboratory for this goal, which was noted as “exceeding expectations”. In 2013, although there is a slight decline in the score (from 3.7 to 3.6), no significant themes or comments were made to suggest the decline in performance. It is noted that prior comments regarding “exceeding expectations” are notably lacking in the 2013 performance evaluation. However, in 2014, there is again a significant decline in

performance score for this goal, from 3.6 to 3.2. A review of the narrative evaluation comments noted again a significant laboratory issue that occurred on a major DOE initiative. This was noted as a challenge in meeting performance expectation but the laboratory's technical response was noted as "strong" in identifying causal linkage and possible solutions to correct the problem. The laboratory personnel formulated a white paper that "detailed the mishap, a path forward, and any impacts to operations and research" (Laboratory C PEMP, 2014). In response to this, the DOE Office of Science, recommended the laboratory contractor "assemble a team of experts independent of the laboratory to evaluate the mishap and assess the planned path forward [proposed] by the laboratory (Laboratory C PEMP, 2014). Based on the independent review, the proposed path forward suggested by the laboratory was validated.

Figure 9 - Laboratory C Laboratory Performance Scores Goals 4-8



In evaluating performance for Goals 4-8, of note are significant declines in performance scores for Goals 5, 6 and 7 during the period of this review. Goal 5, which includes the operation of the laboratory's safety, health and environmental protection programs declined from 3.4 in 2009 to 2.7 in 2012, a significant decline of (-0.7). For Laboratory C, the Contractor Assurance program had been a concern for the DOE Site Office. Further of significant note was a "very serious accident in which a worker was seriously injured and was out of work for 115 calendar days" (Laboratory C, PEMP 2012). In response to this accident, the DOE Site Office locally notably commented that the laboratory did not "fully exhibit the needed level of senior Laboratory leadership involvement nor did it seem to initially look at potential weaknesses in institutional systems that may have contributed to the event" (Laboratory C - PEMP 2012).

Unfortunately, for Laboratory C, this was not the only safety event that occurred during the period of evaluation and noted in this research. An additional major event occurred involving an aspect of the science and while the laboratory contractor's management team had taken steps to identify the problem and make improvements, it was noted by the Site Office as an area of concern. As noted in other areas where there were concerns identified by the Government, an external committee with the inclusion of external, non-affiliated advisors was recommended jointly to improve operations.

Similar to Goal 5, the performance score for Goal 6, Business Systems and Resource Management significantly declined from 3.7 in 2009 to 2.7 in 2012. This particular goal is an integral part of laboratory operations and includes financial management systems, human resources, purchasing/acquisitions and internal audit. Of significant note was the identification of a "weak laboratory process that controlled

financial expenditures in travel” (Laboratory C, PEMP 2012). This issue was noted as impacting the reputation of the lab and required the involvement of senior DOE leadership in resolving an external stakeholder’s concern. Both a lack of internal procedures was noted as well as a finding of significant unallowable costs. On this element of the goal alone, the laboratory received a 2.1 (C+), which within the context of the PEMP system is a significantly low performance score.

A number of other significant findings were noted by the evaluator only after further review and audit of the laboratory business operations. As noted in the narrative for the evaluation period, this necessitated involvement of the DOE Site Office in monitoring the progress of the Laboratory in implementing corrective measures and changes in laboratory policies and procedures. Across the board in the majority of the areas within this goal, the 2012 evaluation noted significant areas where DOE Site Office monitoring and involvement was required.

Similar to declines seen in Goals 5 and 6, a significant decline was noted in Goal 7, Facilities Management, during the period of 2009 through 2014. This demonstrates a decline from 3.7 to 2.8 (-0.9) during the period for this study. This goal evaluates the overall effectiveness and performance of the Contractor in planning for, delivering, and operations of Laboratory facilities and equipment needed to ensure required capabilities are in place. From the evaluation narrative, significant comments were made regarding the overall Campus Strategy and the need to have “substantial DOE involvement in order to achieve the final product” (Laboratory C PEMP, 2014). Additionally, there was noted that data reported by the major system for tracking facilities activities was found to be underreported for deferred maintenance. This was only discovered after a “highly

detailed condition assessment that occurred at Laboratory C of all real laboratory property” in 2014 (Laboratory C PEMP, 2014).

Similarly, insufficient data reporting occurred in an area of laboratory facilities support, with a notation that insufficient detail was provided by the Laboratory Contractor personnel to support a capital investment required and that the supporting documentation that was provided required significant input from the DOE’s Office of Science. Finally, it was noted that in this area for this specific goal, project management and project development expectations were not being met. Of significant note as having the potential to “undermine confidence”, the evaluator commented as follows:

“(Laboratory C’s actions in support of the Infrastructure and Operations Improvements (OI) project were not well executed, leading to substantial rework, appreciable DOE involvement, and concerns for master of project management and potential for downstream success.” (PEMP 2014)

These comments demonstrate DOE’s concerns in a major area of operations that undermine the relationship of confidence, trust and communication. These three elements are critical in relationships based upon stewardship versus those based upon agency.

Laboratory D

Background. The final laboratory analyzed (Laboratory D) was formed in the mid-sixties and is one of the nation’s foremost particle physics and accelerator facilities operated by the DOE. The lab is one of the larger laboratories with more than 1,500

contractor employees and over \$350 million in revenues supporting its annual operations. The sources of revenues include DOE support as well as other external sources. Its core capabilities include particle physics, accelerator science and technology and large scale user facilities/advanced instrumentation. Significant changes in laboratory leadership occurred during the period of this evaluation (six years) as well as changes in DOE Site Office leadership.

Communication-Government Personnel. At Laboratory D, the DOE Site Office self-describes in its interview itself as a “small group with an onsite presence” with its staff of approximately 16 people. The government personnel at Laboratory D acknowledge that the contract has very specific requirements to facilitate communication formally for the purposes of providing specific feedback on performance. The government personnel routinely meet with laboratory leadership formally to discuss issues and to receive briefings as well. One-on-one meetings are held at the leadership level to discuss “hotbed” issues. In addition to the formal contractual requirements, the Laboratory D Site Office has a number of informal methods of communicating with the contractor. This includes emails, phone calls and informal meetings while present on site. One interesting area of communication that was discussed with the Laboratory D Site Office was the fact that meetings are often held with the contractor to discuss communication strategies with the DOE Headquarters. This included discussions on how to “best communicate information with the (government) program” about laboratory activities. From this perspective, both the local DOE Site Office and the laboratory contractor work together to communicate to

the DOE Headquarters office. This effort was to ensure concurrence in the communication and message to the Government regarding activities.

Critical to understanding the role of oversight and autonomy in the relationship is the issue of the onsite presence, which was also discussed. The government personnel who participated in the research perceived that at Laboratory D, the presence on site facilitated “faster decision making” on many operational issues where the government’s opinion or insights were necessary. Additionally, the government personnel perceived value in their onsite presence to ensure clarity in communication between the government and the contractor, particularly when communication comes through other avenues than the DOE Site Office. This point is clearly made in the following statement:

“I really think it's very important for variety of reasons. One, they know who to come talk to on anything that comes up, and we don't always have the answer, but we can go find out. There are so many different things that go on in the government that come to them through other channels unofficially. A lot of times they need to come and ask and say, "Is this something that we should be doing? Is there something missing from a contract or is this just another government request for information or just information that you guys should go figure out? The other thing is that we do need to provide them approvals periodically on certain things, for instance the site office is the one that will take the funding that comes from the headquarters programs. And actually there has to be a specific transaction to add money to the contract. It helps to have us there to make sure that they know when things are funded and where the money is at and keep things moving.”

The type of communication referenced above might include communication of policy and guidance from the DOE Headquarters Office. Adding on to this concept that an onsite presence adds value, is the belief and perception by the government that with

being onsite, they have the ability to assist the laboratory contractor in the operation of the laboratory by anticipating when specific activities and decision making are necessary. This is best illustrated by this statement:

“We already have an understanding of what's going on and anticipate what the permits are going to be that are needed for the mission as it goes ahead, so we stay ahead of all that being on site.”

Therefore, for the government, being onsite served multiple purposes including monitoring, communication and assisting the contractor as necessary in the operation of the laboratory. The onsite presence provided first-hand knowledge about laboratory activities for government personnel involved in the decision making process.

Communication – Contractor Personnel. From the contractor’s perspective at Laboratory D, considerable communication is handled with the government personnel via email, despite what was described as a “lean” onsite government presence in the operation of the laboratory. Unlike other laboratories that are a part of this research, the two management teams convene a monthly luncheon where issues are discussed in a less formal setting. This level of informality was regarded as both collegial and collaborative in the relationship and allowed each side to get to know individuals on a more personal level. Other informal meetings are discussed between the two senior leadership teams on a twice weekly basis as needed, with other groups within the organization convening their own meetings based upon their subject matter area. The need to maintain fairly frequent communication with the Laboratory D Site Office was deemed effective (but not necessarily ‘efficient’) by contractor personnel and

was primarily for the purpose of maintaining “situational awareness” and reporting “back to their masters” on issues that are ongoing.

As with other contractors at other laboratories, the contractors at Laboratory D were also very aware of the complex nature of the role the local DOE Site Office plays in the management of the laboratory and its interface with the DOE. Contractor personnel perceived the local Laboratory D Site Office as a resource for navigating other areas of the DOE and also often felt empathetic towards their colleagues at the DOE Site Office when they, as government personnel, also lacked clarity around direction or guidance that was passed down to the laboratories from DOE headquarters. This is specifically illustrated by this comment:

“But there are certainly occasions when they're just as confused as we are by some edict that arrives from some unknown element of the government - that's the plight of the commons, I think, in the U.S. And I would say our site office is particularly effective that understanding what's happening and generating their own reports up the food chain.”

Trust in the Relationship. At Laboratory D, the leadership within the DOE Site Office provided clear perceptions about the importance of trust in the relationship. When asked about whether or not they trusted the laboratory leadership in decision making, the response was as follows:

“Yes, we do trust them. Now there are times where we might have a perspective that we bring to them, and sometimes that helps them adjust exactly which direction they go. There's only one occasion where we step in and this is actually written into the contract, We, the government, any employee has a right to stop work if we believe it's an imminent hazard to someone's health, or their safety or to the environment.”

“So everyone has that opportunity to step in but other than that, we generally don't direct unless there's something that they're doing that's just not consistent with the law or regulations.”

The role of both the Partnership Agreement and Contractor Assurance System (CAS) was also discussed in the context of building trust in the relationship and ensuring that mutual goals and objectives are met. The Laboratory D DOE Site Office specifically identified both of these mechanisms as opportunities to bring the parent organization into the contract management process as a more active stakeholder and participant in laboratory operations. As the relationship evolves over time and trust is adequately built, there is what is described as a “lesser reliance” on these mechanisms by the parties to enforce the terms and conditions of the contract or to secure contractor performance. The M&O Contract was stated as “facilitating the trust in the relationship as the relationship evolves” captured as follows in this statement:

“The M&O Contract, well it's a little unique in the government and it does start with the premise that there is a group of people out there that is prepared to deliver on this work better than the government performing it itself. With that as the foundation, from there what you're doing is trying to build up, “Okay what's the right level of involvement and what are the principles for that involvement?” Since I've been in the Office of Science, what we've been doing is evolving. Because we did also have a little bit of a mindset when I first got into the Office the Science that we are going to audit and check a lot of different things and it was transaction based. We've really evolved in the last few years to say, “Checking the transaction is like trying to inspect quality into the programs.” That doesn't ever work. So we stepped back and we said, “What we want to do is give the contractor the responsibility to do the inspections and the internal quality control.” Then we want to look at them on a broader perspective of what they're delivering. Is what they're delivering consistent with what we need? How are they delivering it? Is it safely and efficiently and consistent with our expectations? That really has been an evolution of the relationship, an evolution of shifting responsibility, accountability to the laboratory, which is good in most cases.”

For contractor personnel at Laboratory D, there are similar themes about trust evolving in the relationship over time and the need to ensure trust is maintained in the relationship. They perceive that trust is built by having a shared vision for operating the laboratory and the delivery by their personnel as the contractor of results. This is a critical aspect of the relationship. This point is made clear in the following comment:

“I think the strongest relationships are the ones where you have a shared vision and your performance indicates progress to get that vision and reliability and integrity.”

However, reliance on trust alone was identified as not enough for the relationship to work well. The contractor personnel also identified that they must have a proven track record of delivering results. This track record indicates goal alignment, a shared vision and shared mission with the government personnel, all of which reinforces trust in the relationship.

“So for organizations, you can't just rely on individuals trusting one another. You want to have that track record, do something that the organizations can speak to you, and then the individual to step into that vision and share and a performance against that.”

It was recognized that when there are performance issues or problems, it takes a toll on the trust in the relationship. The level of trust must be restored with a re-established track record of performance that is consistent with the goals and objectives of the government.

Autonomy and Decision making. At Laboratory D, the government personnel perceived that the contractor operated the laboratory with a level of autonomy that was appropriate based on the contract and statutory requirements. Additionally, the model upon which the M&O contract was built is one that should place the responsibility and accountability for laboratory operations on the contractor. The government personnel at Laboratory D also recognized and acknowledged their role in the operation of the laboratory despite the onsite presence and availability to the contractor. This demonstrated an acknowledgement that the contractor is responsible for operating the laboratory under the contract. This was further identified in the comments as follows:

“That's one of our main things is we try not to jump to conclusions and make their job harder. We let them try to figure it out even if it's going to be difficult. Then there are times when what ends up happening is not what we'd expect in terms of our high expectations for performance, and there are consequences for that. Either there's a PEMP repercussion, or they get negative feedback. But we let them take it to the end because we really are hiring the best and brightest to run the laboratory, and if we get involved in every little decision we've essentially taken away that responsibility and we've placed it on ourselves. That's not a good situation. That basically says the government wants to run this lab on a day-to-day basis and that's not really the model we've put in place.”

Thus, the indication is that if there are problems in the operations of the laboratory, the government should look to the contractor first to decide the appropriate action or response. By operating autonomously, at least initially, the government can ascertain greater information about contractor decision making.

In contrast, from the contractor's perspective, the autonomy and decision making was identified as an issue at the laboratory. As the contractor stated, what seems to work best is if the government relies upon the contractor to provide the “transactional

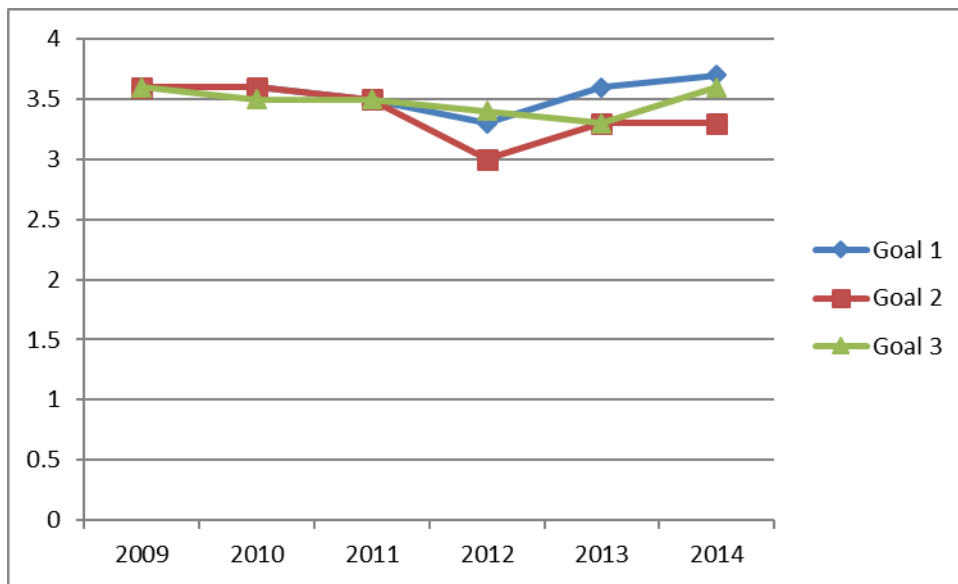
oversight” to the laboratory and not seek to render a decision or opinion about how to handle a matter which is generally handled by the contractor. Instead, the contractor at Laboratory D felt that what is working and working well is when the government provides only “procedural oversight” to the laboratory operations, acting in concert with the DOE Headquarters. This point is illustrated in the following statement:

“What I would say is one thing that works very effectively with our current site office complement is that they are focused on procedural oversight, not transactional oversight. So for any particular decision, they're not in there telling us to do it differently, as a general rule. They're interested in, "Well, tell me how you arrived at that decision. And is it different than how you did it last time?" Or, "What would happen next time if this piece were different?" So that's very helpful because it's helping us think through how we run the business and how much is pre-scripted and much is put into our frontline manager's judgment.”

When there are identified issues with decision making and autonomy, those were identified as the government challenging the contractor’s rationale for handling a matter in a specific way. This was often exacerbated by miscommunication, often informally, where the contractor’s rationale could not be clearly stated. The contractor stated that this occurred fairly infrequently but did occur on occasions and was reflected in performance scores.

Performance Score Analysis. During the period of analysis, 2009-2014, the laboratory experienced some period of fluctuation in performance scoring. The graph below displays the performance trending scores for Goals 1-3 (Science) and Goals 4-8 (Operations).

Figure 10 - Laboratory Performance Scores 2009-2014 Goals 1-3



The results indicate that significant changes and fluctuations in performance scoring on several goals between 2010 and 2014. For example, on Goal 2, there was a significant decline (3.5 -3.0) from 2011 to 2012. Additionally, there was a significant decline in the Goal 5 scoring over the period, from 2010 to 2012 (3.4 – 3.1). From the performance evaluation narrative, the government expressed concerns of the laboratory’s ability to oversee a major DOE project that was underway. This was perceived a lack of project management oversight for Goal 2 and is linked closely with the perception that more communication was necessary between the contractor laboratory personnel and the government on how the contractor planned to implement improvements in its project management process. The government’s comment specifically stressed that there was a perceived “sense of urgency” in the communication on how improvements would be made to project management.

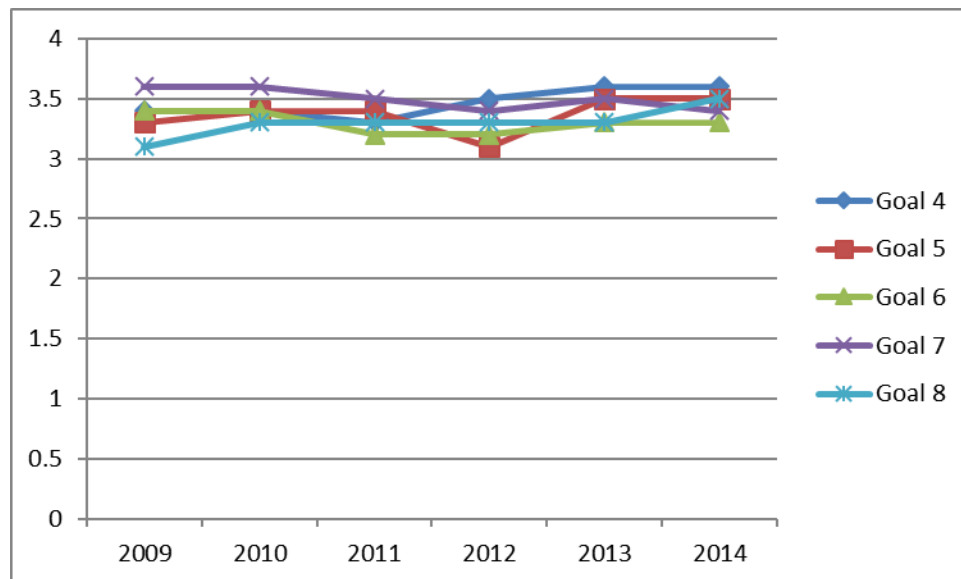
Likewise, with regards to Goal 3, the comments provided in the narrative are a good indicator of the government personnel’s perception that the contractor is not fully aligned with the vision, goals and expectations of the DOE in its scientific operations.

This is most noteworthy in the following comments:

“...the Contractor struggles to reconcile the need to support current and near-term operations and experiments with the bold long term vision. The current complex needs to be maintained and refurbished to support current and near term experiments....”

This vision and the resources necessary to implement the vision at Laboratory D are jointly developed by the government and the contractor with primary insights from the DOE Headquarters.

Figure 11 - Laboratory Performance Scores 2009-2014 Goals 4-8



With regards to Goal 5, in 2012, there was a considerable increase in oversight levels provided by the government in support of this goal. Specifically, the DOE Site

Office worked jointly (“in partnership”) to evaluate site safety through extensive site walkthroughs. It is clear from this process, that considerable attention through this partnership was paid to site safety issues at the laboratory and as a result, revealed areas where the contractor was perceived as failing to meet the government’s expectations in providing adequate oversight of Environmental Safety and Health issues at the lab.

The DOE’s required involvement and a failure on the part of the contractor to meet expectations was also noted in a review conducted as a part of Goal 5. As a result of this review, the contractor was cited in the performance narrative as failing to provide the necessary oversight with a need to provide more emphasis in contractor management. A key point is identified with this point made in narrative indicating a need to improve communication in order to meet governmental expectations.

Within the performance narratives for Laboratory D, there is a concerted effort made by the reviewer to include both positive and negative feedback as a part of the review process. The reviewer for Laboratory D, like other labs in this study, made note of improvements as well as areas where the contractor used the proper approaches to resolving a problem, implementing a system or meeting an expectation. As discussed in the study analysis and discussion, and identified in the Laboratory D evaluation narratives, having longevity in the reviewer or a reviewer who is interested and invested in the laboratory’s success and the outcome of the performance by the contractor is important and is also reflected in the performance evaluation narratives and scores. Both government and contractor personnel for Laboratory D acknowledged that the PEMP and evaluation system for the laboratory is a fair and reasonably objective tool for evaluating laboratory performance.

INTERVIEW RESULTS

Description of the Sample

The qualitative interviewing activities in this study were based on a sample of 18 individuals, including 6 government employees and 12 contractor employees. The use of a small sample in this research enabled the researcher to investigate thoroughly each participant's perceptions about the relationship and their lived experience in considerable depth. Participants in the research were selected through purposive sampling strategy, a method often used in qualitative research when a specific research sample is necessary to adequately address the research questions that are posed (Teddlie & Yu, 2007). In addition to purposive sampling, convenience sampling was also utilized as individuals who agreed to participate made themselves available at specific dates and times for interviews. The demographic characteristics of the government employees who participated and those of contractor employee participants are not included here because of the sample size and to protect the anonymity of participants.

In order to further protect confidentiality, each subgroup's demographic characteristics have been summarized in the aggregate. At the time of the interviews, the participants all were within the 45-60 years of age. Each had extensive experience in leadership roles within either the public sector or with the national laboratory. For government employees, the average number of years with the DOE was approximately 24.8 years. Many of the government employees were within retirement age range and were considering retirement in the next five years. With regards to education, all of the

participants had at a minimum a Master's level degree with many individuals having obtained a doctoral degree as well. The government personnel participants represented 8 of the 10 DOE Office of Science laboratories.

Contractor personnel represented 9 out of 10 of the DOE Office of Science Laboratories, ranging from small and large laboratories with both university and non-university parents. The positions within the laboratory were both scientific leadership and administrative leadership, ranging from directors of environment safety and health and other administrative positions. On average, the contractor participants had worked approximately 15.45 years with the laboratory.

Communication and Information Sharing in the Relationship

Communication is an important aspect of the government-contractor relationship. Communication, in the broadest context, is a variable in this study used for understanding how information sharing occurs and at what levels between the government and the contractor in the relationship. Where adequate communication exists in the relationship, the principal perceives that the agent has fully disclosed all relevant information and thus there is transparency and no information asymmetry exists. As a result, there are greater levels of stewardship than agency. Where inadequate communication occurs, the principal perceives that the agent has withheld necessary information from the principal for the agent's benefit or gain. Thus, additional monitoring is required, indicating greater levels of agency than stewardship.

For the purposes of this study, it was reported by participants that communication between the contracting parties occurs for various reasons including

general information sharing, activity reporting, monitoring and providing feedback. It may occur formally or informally in the relationship and with varying levels of frequency depending on the type of relationship. The formal requirements regarding communication are generally stated in the contract and can include reporting requirements and the government providing the contractor with formal performance feedback.

Informal communication can occur on an *ad hoc* basis or in many forms in the contractual relationship. How a party to the contractual relationship perceives the need to communicate, particularly to engage in informal communication, is insightful to the perception of the levels of agency or stewardship in the relationship. Formal communication would be consistent with the contractual requirements and include formal reports submitted by the contractor and mandated routine meetings. Thus, in a government - contractor relationship that relies solely (or heavily) on formal communication for information exchange, the relationship would likely be perceived as more closely aligned with principal-agency theory. In contrast, relationships with more informal communication are likely to be highly collaborative and perceived as exhibiting characteristics of the principal-stewardship theory. The following section describes the perceptions of the study participants with regards to information sharing and communication in the government-contractor relationship.

Government Personnel. Government personnel who participated in the study stated the need to engage the contractor personnel (primarily contractor leadership) in both formal and informal communication was critical to relationship success. This included communicating with the contractor beyond the stated requirements of the M&O

contract. Each reported that the current levels of communication, both formally and informally, were adequate and effective, and that no additional communication was needed. Participants cited several forms of formal and informal communication that occurred on a routine basis. All of the participants (100%) stated that routine meetings were scheduled with laboratory contractor leadership. The frequency of the meetings with contractor leadership were reported as varying from weekly to daily by government personnel.

In addition to contractor leadership, participants reported that they and their staff frequently meet with lower level managers within the contractor's organization to obtain information and to discuss various aspects of laboratory operations. Thus the bureaucratic hierarchy within the organization on either side was ignored in circumstances where effective communication required a direct approach with contractor personnel at lower levels. This was also found effective in ensuring that information was communicated with the right personnel involved for decision making and implementing new initiatives.

"Seeing it and being able to talk directly to the people involved and keeping the ties and being able to see what is going on was tremendously valuable compared to just getting a phone call or getting a report status."

Participants reported that the forms of informal communication that occurred included in person meetings, phone calls and emails. These forms of informal communication were cited as effective and adequate at the current levels within the relationship by 100% of the participants. It is important to note that no concerns were

noted by any government personnel interviewed with the current methods of communication and the current levels of communication frequency with the contractor.

“One of the most important things to me between the federal leadership and contractor leadership is having open channels, open lines of communication, making sure that we’re really having direct conversations with the laboratory about what our expectations are and where we think things are working well and where we think things need to be improved.”

Monitoring and Oversight. Communication was cited as used by government personnel for monitoring and keeping informed about activities in the laboratory. It is also a method of providing the contractor with needed feedback on performance and on changes in government policy or expectation. Of the government personnel interviewed, unanimously (100%) of the participants interviewed noted that informal communication was an effective method for finding out about laboratory activities and weekly “sit-downs” with laboratory leadership were effective in obtaining information for their local oversight and for reporting back to the DOE’s Headquarters in Washington, DC.

“Communication is a two-way street. Absolutely, it (communication) is a very important way to talk very frankly with the laboratory director and his staff. It has been many times when I tell him (laboratory director) things and he does know. Very often he or his staff will tell me things I don’t know.”

“I want them (laboratory leadership) to really have a relationship with the program people (DOE HQ) about how things are going in the scientific world and their execution of the projects and driving their mission objectives.”

“...we expect them (contractor leadership) to promptly report the problem...either formally or informally depending on the significance or severe the issue or problem was.”

Informal communication through onsite monitoring also occurs by having government staff embedded with laboratory personnel in many aspects of the operations.

Being on-site (co-located) and having a “boots on the ground” approach was cited unanimously (100% or 6 out of 6) by government personnel as an effective way of finding out about what is happening in the laboratory. Being co-located on site with the contractor was perceived as beneficial for various reasons by the government in monitoring and providing oversight. Co-location had multiple meanings with government personnel including being “down the hall”, in close proximity, either on a different floor of the same building or on the site in a different building

“I have people (facility representatives) who work for me who are embedded in the laboratory’s offices and operating systems and they keep track of parts of the laboratory and management systems.”

“...being on site improves your knowledge, your awareness and the truth of what is going on much better than being hundreds of miles away.”

“I can recall incidences in the relationship early on where I was told one thing and when I would go out and look, I would see another thing. But that was a learned behavior.”

“One of the main reasons we are there is to just get a sense of how things are actually being done on a day-to-day basis.”

“If there is something pressing, something we just need to get an answer for or vice versa, we just walk to each other’s offices.”

“Being onsite is important for various reasons, government to ensure proper oversight and know what is going on—for the contractor, primarily to facilitate communication.”

When asked whether or not during the course of the contract, when there were problems with the contractor, were these as a result of communication or miscommunication, 50% (3 out of 6) government participants stated affirmatively that communication was an issue. These individuals cited incidences where either there was a miscommunication of information due to misinterpretation by the contractor of the

contractual requirements or in the alternative, there was the perception that the contractor withheld information about laboratory activities.

“I think they disclose things that they believe to be a requirement to disclose to the DOE, things of interest to DOE or things that they believe are important to communicate with the DOE. There are times that there are still things that we may not be aware of and sometimes, it is because the contractor feels like it is below the threshold or not that significant or maybe in some cases, they just forget to communicate with us because there are so many things going on at the lab.”

“There have been a couple of circumstances where either they (contractor personnel) didn’t think something was important enough to tell us right away or they were trying to gather more information before they told us, and we found out about it in other ways.”

Government personnel who participated in the research all perceived the need to provide “procedural oversight” and not “transactional oversight” in monitoring contractor activities and that not every aspect of laboratory operations requires a communication with the government. Some matters, for example, were cited as not having a communication requirement at all with the expectation that the contractor had the expertise and systems in place to handle the matter. This included daily operational matters related to routine personnel decisions.

Communication with the Parent Organization. Of the government personnel interviewed, four of the six (66.6%) stated that routine communication occurred with the parent organization of the contractor. The communication that occurred with the parent organization was noted as occurring from bi-monthly to once a quarter in the form of formal meetings and the meeting frequency varied based upon the parent type (university versus non-university). The purpose of the meetings with the parent also varied but was mainly for the purpose of ensuring the parent was aware of laboratory

operations or changes in DOE policy to providing performance feedback. It should be noted that under the DOE's M&O contract structure, the parent organization has the ultimate responsibility and accountability for meeting the contractual requirements outlined in the M&O contract.

Contractor Personnel. As noted previously, 12 interviews were conducted with contractor laboratory leadership personnel at the DOE Office of Science laboratories. The issue of communication with the DOE, both at the local site office level and at DOE headquarters (HQ) was discussed at considerable length as it impacts not only the requirements of the contract and performance management, it also impacts the overall relationship. Formal communication is generally one form in which the principal monitors the agent's activities under agency theory. Formal communication is often stated as a contractual requirement to avoid the "information asymmetry" that is noted in the literature as occurring in the principal-agent relationship. Formal communication is also one method of providing and documenting performance feedback.

In this study, the participants acknowledged their awareness of the formal communication requirements. Unanimously, every contractor personnel participant (100%) perceived communication as an integral and important aspect of the government-contractor relationship. Formal communication was noted as occurring as required by the contract in the form of written letters and reports, as well as semi-annual performance feedback. All of the personnel (100%) noted that formal meetings were held with government personnel where formal agendas were maintained and minutes distributed memorializing the understanding of the parties on the agenda items discussed.

Informal Communication. In the government-contractor relationship, informal information exchange and information sharing occurs for various reasons from the contractor's perspective. As Table 3 denotes, a considerable amount of informal communication occurs between contractor laboratory leadership and government local site personnel. This included discussions informally such as impromptu meetings, emails, phone calls and walk thru visits.

Table 3-Informal Communication

Communication Format/Type	Purpose	Percentage Reported Occurrence	Effective?
Emails	Posit a question or concern, update a status of outstanding item, obtain information, data call and informal reporting	100% -routine	Yes (100%)
Impromptu meetings/discussion	Quick status update, question, information sharing/exchange – included informal discussions in the hallway or stop by office	100% -(non-routine)	Yes (83%); Somewhat (17%)
Phone calls	Informal information exchange; questions; clarifications	100% - (ad hoc)	Yes (100%)
Walk-thru/observations	Generally, government personnel and contractor personnel – joint facility observation monitoring	83% (jointly)	Yes (83%); No (17%)

Laboratory contractor personnel perceived the need to have informal communication on a frequent basis as important to maintaining a good working relationship with their government local site personnel. This was perceived as adding to the “transparency” necessary to maintain a good relationship with their government counterpart. Transparency was a re-occurring theme that contractor personnel discussed throughout every interview when discussing various elements of the relationship. Nine out of the twelve participants (75%) specifically used the term “transparency” in describing what they individually believe makes a good relationship work with the government and adds to the collaborative nature of the relationship as well as trust.

Communication and Performance Feedback. Communication in general and informally between the government and the contractor was noted by 100% of the contractor personnel as an effective way to ensure an understanding of the goals, objectives and notable outcomes in the contract and for providing performance feedback. Although the goals, objectives and notable outcomes are written and discussed at the outset, contractor personnel reported that throughout the year, communication and feedback played a role in ensuring that goal alignment exists and to ensuring an understanding of expectations.

“Communication is the way that you make sure you get down to the specifics as to what we’re going to do this year.”

“The understandings about goals, objectives and notable outcomes are communicated through frequent contact, often weekly or monthly.”

“I would describe the PEMP process as no surprises based on the communication and feedback that occurs during the year.”

The current forms of informal communication were reported as adequate in frequency, but also noted that many of the informal communications were “targeted

discussions” and required the participation of subject matter experts of the contractor to ensure the meeting objectives were accomplished. Seven of the twelve contractor personnel (58%) provided anecdotal stories of interactions with government personnel that were effective as a result of informal clarification and that such informal discussions helped the contractor understand the roles and responsibilities that local site personnel play in laboratory oversight when compared to the DOE headquarters office. This was perceived in part as empathy by the contractor for the DOE local site office personnel who were at times perceived as the messenger for policy making decisions made by the DOE headquarters office. This was conveyed as a “breakdown” in communication between the DOE local site office and the DOE headquarters office in Washington, D.C. Nevertheless, the need for transparency, however, was identified as vital for the laboratory contractor personnel in achieving goals and objectives, ensuring mission alignment and maintaining a good working relationship. But it was also acknowledged that for effective governmental operations, mutual transparency while highly desirable in most instances, cannot always occur.

“My view has always been that open, transparent, communication helps the relationship, so that is what I favor.”

“I sanction in person conversations when the topic is difficult, including informal “off the record conversations.”

Additionally, when asked about the completeness of information exchanged to determine if information asymmetry or withholding of information existed in the relationship, laboratory leadership personnel, like government personnel, recognized and acknowledged that not all information is provided to the government on all issues of laboratory operations. The reasons for withholding of information differed slightly,

with contractor personnel withholding information at times due to a lack of trust that the government personnel might overreact to the information. Two participants (17%) were frank in acknowledging that the withholding of information at times is deliberate and done on purpose, as they perceived their scientific expertise was greater than that of their government counterparts and colleagues. It is noted that these participants were from the scientific leadership as opposed to business operations. Likewise, six participants (50%) noted that there are times when the contractor personnel must withhold information from the government on laboratory operations.

“I would never say that we withhold information. The only thing that we don’t share with the DOE would be things that are strictly related to our relationship with the parent. Anything that impacts the contract I feel completely open about sharing and discussion with the DOE. In fact, I want to discuss it with them and I want them to understand the world we have to live in and the shoes we have to walk in.”

Therefore, from the contractor’s perspective information that is necessary and required to be disclosed to the government is provided but some degree of operational autonomy must be maintained to protect their business interest. This includes not providing the government with business sensitive documents or with internal business strategies or operational plans, even if such plans are for the operation of the laboratory. This is consistent with the theme presented throughout the interviews with both types of personnel about the roles of each in providing oversight, namely that the government’s role is procedural and not transactional.

Communication for Onsite Monitoring and Oversight. Unlike the government personnel interviewed, not all contractor personnel perceived the need for the government personnel to have an on-site presence. Three out of the twelve participants

(25%) noted that while frequent informal communication was effective, an onsite presence was not necessary provided that other forms of communication (“touch points”) occurred fairly routinely.

“I don’t think they need to have that presence to have that kind of knowledge of what’s happening at the lab, but it certainly doesn’t hurt.”

“But having touch points with the DOE site office, getting an understanding of what their role is was important, and so I think that’s something that by having these frequent touch points, it builds a better relationship. So at the very beginning there wasn’t as many, let’s just say, routine meetings and I made it a point to make sure that we have routine meetings.”

Thus, while recognizing the convenience of having government personnel in close proximity, this was not viewed by the contractor personnel as critically important to the relationship or in providing monitoring and oversight. This is in contrast to the government personnel who perceived that a local presence was extremely important to providing adequate oversight to the laboratory.

Levels of Trust in the Relationship. Trust is an important factor in the government-contractor relationship. It is fundamental and inextricably intertwined in other factors that influence the government-contractor relationship, including communication and monitoring/oversight. Evidence of trust in the relationship is demonstrated by factors such as the agent’s autonomy in actions and the principal’s delegation authority and decision making. Also, the level of trust is shown by how much decision making authority the principal grants to the agent and the types of decisions the principal allows the agent to make without first consulting with the

principal for input. Additionally, with regards to performance management, a collaborative relationship built on trust is characterized by the principal seeking input from the agent on the goals and objectives that the principal will utilize to measure the agent's performance.

In this study, both the government participants and contractor participants interviewed were questioned extensively about decision making, delegation and trust. Specifically, the participants were asked about their personal experiences in their current roles in either providing oversight to contractors operating the national laboratory or in interacting with the government, both locally and at the DOE Headquarters, in operating the laboratory. On this issue, the participants were very forthcoming in this discussion about their individual roles and the role of DOE Headquarters. The results reported on the issue of perceived level of trust are reported in the next section.

Government Personnel. The results based on the interviews with government personnel were revealing about the perceived level of trust. First, all government personnel reported that many of the decisions and authorizations were stipulated and required by DOE regulation and were stated in the M&O Contract. These requirements were considered by all of the government personnel as part of the bureaucratic process that is in place at the DOE and reflected the longstanding history the DOE has had in overseeing the federal laboratories. These regulatory and statutory requirements established both the government's role within the federal laboratory system at the DOE and the role and responsibility of the contractor operating the lab. The government personnel interviewed were all well aware of the specific regulatory requirements based on their comments and length of tenure within the DOE System.

When queried beyond the statutory and regulatory requirements that are stated in the M&O contract and applicable regulations, government personnel expressed various views about what decisions should be made by the government and the decisions that could or should be delegated to the contractor operating the federal laboratory. The level of authority and delegation to laboratory personnel was reported unanimously by 100% of the participants to be adequate in operating the laboratory. It was noted by 5 out of 6 participants that the decision making of the DOE with respect to the operation of the laboratory, as outlined in the contract, is perceived as adequate. Significantly, all of the government personnel stated the perception that they were not empowered to change any of the statutory or regulatory requirements of decision making that are imposed upon them in their role by the DOE Office of Science Headquarters, or as required by statute. However, even with contractual and statutorily imposed constraints, there was consensus that the contractor should have full operational authority for managing the laboratory, outside of the contractual requirements or statutory requirements.

“If there is something that is not spelled out a certain way that the DOE has to be involved in necessarily...it is left to the discretion of the contractor on how to do something. They should have the responsibility and be allowed to do their jobs and then be held accountable to manage and handle whatever that other aspect might be.”

“These (labs) are somewhat limited by DOE regulations and the terms and conditions of the contract for many areas. Quality assurance program is a good example. The contract requires the contractor to develop the program based upon specific established criteria. The plan is submitted to DOE for review and approval. Other items the contractor seeks out DOE input and feedback prior to implementation. For these types of decisions, the contractor has oversight. When this happens, we have a meeting and we will ask, “well, have you considered trying to design or implement that change this way? And we’ll offer that information up. The contractor takes that to heart and they listen very well. Then they do their own due diligence to think about it, consider it and then they make their decision on whatever

it is we might have thought about or suggested or added in the conversation... ”.

Within areas of their control, the government personnel provided a number of insights about the value of being “onsite” in building trust in the relationship. While 3 of the 6 (50%) of the personnel reported that being on site allowed them to verify information provided by the contractor, the remaining suggested that being onsite locally was an efficient way to gain first-hand information about laboratory operations.

“...being onsite improves your knowledge, your awareness and the truth of what’s going on much better than being hundreds of miles away. The ideal situation is to have a good trusting relationship and be able to have the contractor set the expectations and state what we want achieved...for the contractor to be able to put together the plans and methods of execution to state how.”

“Let’s trust each other so that we can treat each other like adults and deal with the facts as they are so, that we can figure out what happened and we can avoid it again.”

When asked about the level of trust in the relationship that they each have with the present laboratory leadership, the majority of the government personnel indicated that they trust the laboratory leadership in operating the laboratory and to make good decisions that are in the best interest of the laboratory and the DOE.

“The leadership we have worked with for a long time. They are still working level, principal investigators and researchers that stray a bit and get off the course, but we have a good working relationship with the leadership of the laboratory.”

“So if I didn’t trust these guys, there would be a big problem. We pay them a lot of money which means I expect them to manage. Which means I

expect them to figure out how to solve problems and to figure out how to do it in the correct manner. And when they do that, that is good. I don't sit there and tell them, "Do it this way, or do it that way."

"There was a period of time where I did not have a very good (responsive) lab leadership. We would say things and say things, and it just seemed like nothing was happening. So, yes, they made a change and it was a tremendous change (in leadership). There is a learning curve with how we work, and I think there is trust that has to be established. As long as people honor each other, and work toward good communication, then trust is built. When you break that trust, you have got to start to build it back up again."

For the government, having trust in the laboratory leadership allowed the DOE Site Office personnel to rely on the laboratory leadership and laboratory personnel to manage the laboratory at the "transactional" level while they worked at the procedural and policy level. This was of particular importance to the government in the contractual relationship. Statements from several participants are reflected as follows:

"We're trying to stay out of the transactional and stay into the performance management."

"The idea of systems oversight versus transactional oversight is key to the relationship. In my opinion, there is still too much transactional oversight on behalf of the department, the government, of the laboratories."

"What we don't want to do is to get into the day-to-day management of the laboratories, day-to-day transactions. We're here to do oversight, to make sure the government's assets and government's interest are maintained."

"There is obviously different ways to do things and flexibility, so that can be a challenge at times to make sure we're trying to stay true to that. To just define what needs to be done and let them have flexibility on how to do it."

"I expect the contractor is going to be making decisions all the time and the decisions are going to be the right decisions. And I'm not going to get into the middle of telling them, "This is the right decision, that's the wrong decision." I expect them to make the right decision. And if they come over here and propose things that are wrong, well that's a serious problem."

Contractor Personnel. For contractor personnel, having the government trust them in the operation of the laboratory and knowing that the trust existed in the relationship was critical to the relationship and in meeting performance expectations. For those contractor personnel who were primarily responsible for the scientific aspects of the laboratory operations, the close working relationship with the scientific leadership at the DOE Headquarters required that there exists adequate trust on both sides of the relationship. This was perceived as the contractor having “boots on the ground” in that they, as the contractor, were closer to laboratory operations than the DOE Headquarters personnel involved in the operations of the laboratory. This is highlighted in the following statement from a study participant:

“The problem that I see is that the people who are closer to the laboratory who understand the issues about the laboratory generally tend to make the right decisions. The farther removed you are sometimes, not out of intent or malice, but sometimes you are removed from the details. And so therefore that becomes much more of a challenge and requires working through to resolve some of the mismatched expectations.”

“I think that (trust) is very important. I think there needs to be a certain level of transparency on both sides. Certainly, my style is there needs to be transparency on both sides. And the primary reason for that is to gain and sustain that trust, information that's being provided is reliable, that decisions are well-founded. And I think that's pretty fundamental, actually.”

The trust level in the relationship is not one that is taken for granted, however by the contractor who, in at least 6 interviews (50%), acknowledged the potential erosion of trust in the relationship with the government. The erosion of trust could occur at any time and be rooted in a number of potential causes including a misunderstanding of the contractor's motives or a miscommunication

about issues that have occurred in the operation of the laboratory. These issues, when they do occur, required discussion on the part of both sides to resolve.

Perceived Factors that Influence Performance

Understanding what motivates contractor performance plays an important role in the government-contractor relationship. One method of gaining this understanding is to ascertain the perceptions and actual (lived) experiences of both the government employees who are charged with measuring performance and providing contractor oversight and from the actual laboratory contractors who are charged with performing the assigned tasks under the contract. These perceptions form the basis, of not only the contractual relationship but also play a role in the incentives and sanctions that are established in the formal contract or incorporated in the contract performance management regime. The government in establishing the contract, includes in the terms and conditions, potential rewards such as the award fee for exceptional performance and sanctions for poor performance. The purpose of the rewards is to motivate the contractor by incentivizing performance. Likewise, the sanctions, including the potential for non-renewal or re-competition of the contract serve as an incentive for positive performance.

In government-contractor relationships that are reliant upon agency principles, key performance motivators will be the formally established incentives (e.g., fee, potential contract renewal) and the avoidance of potential sanctions (e.g. contract non-renewal or re-competition). These factors are all extrinsic motivators based upon the

literal language often contained in the formal contract. In contrast, in government-contractor relationships that are based on stewardship principles, the contractor is more likely motivated by intrinsic motivational factors. Such factors include maintaining a good relationship with the government overseers and government monitors who provide information into performance reporting, maintaining a good reputation in the research community, and alignment with the goals and objectives (mission alignment) with the contracting agency. The following section provides the results of the study on the perceptions of participants through their lived experiences of what motivates contractor performance.

Government Personnel. In this study, an important consideration in understanding the performance motivation is recognizing that this aspect of the relationship is controlled primarily by the government. Although the contract is subject to negotiation, the government is tasked with establishing the goals, objectives and notable outcomes in the contract. As noted earlier, the contractor may be asked to provide input on the notable outcomes (short term objectives), but the government is the ultimate decision maker on how the contractor's performance will be measured. In this study, all government personnel were asked specifically what they perceive motivates the contractor to perform under the current M&O contract.

Of the six participants, all six identified as a primary motivator as a desire to achieve the mission of the laboratory. For example, the following statements were made by participants:

"I think they're motivated to be able to deliver the mission as efficiently and effectively as possible."

“They’re motivated like all of us are to be efficient and effective with the resources that the taxpayers have entrusted to us. They recognize this is a government laboratory and it’s a government contract and they’re genuinely motivated to do the best they can to be cost effective and efficient and be good stewards of the taxpayer’s money.”

“I think one of the main motivational factors for the lab is the vitality of the lab. How well they perform with what they’re given is an important thing and that’s directly reflected in the PMP.”

Your customers like you, your customers are going to continue to support you.”

In addition, as noted above practicing good stewardship of the contract funds was identified as an important factor. This was identified as using resources wisely to advance the DOE and the laboratory’s mission. Beyond mission alignment, other important motivational factors perceived by the government included the grades and the transparency of the grades that are made available on the internet. The perception is that while the grades do not vary greatly, they do provide an external reviewer with insights as to laboratory activity.

“So when they don’t get good grades that kind of reflects on their vitality and that motivates them. And they want to come here and do science, is what they want to do. So that is a real motivating factor-- that is to keep pushing forward, getting new projects, new programs. All of those ratings (performance ratings) factor into that. I think a science lab really wants to get “As” in science. That’s important to them because again if you’re getting “As” in science, your programs are vital and you’re doing something right.”

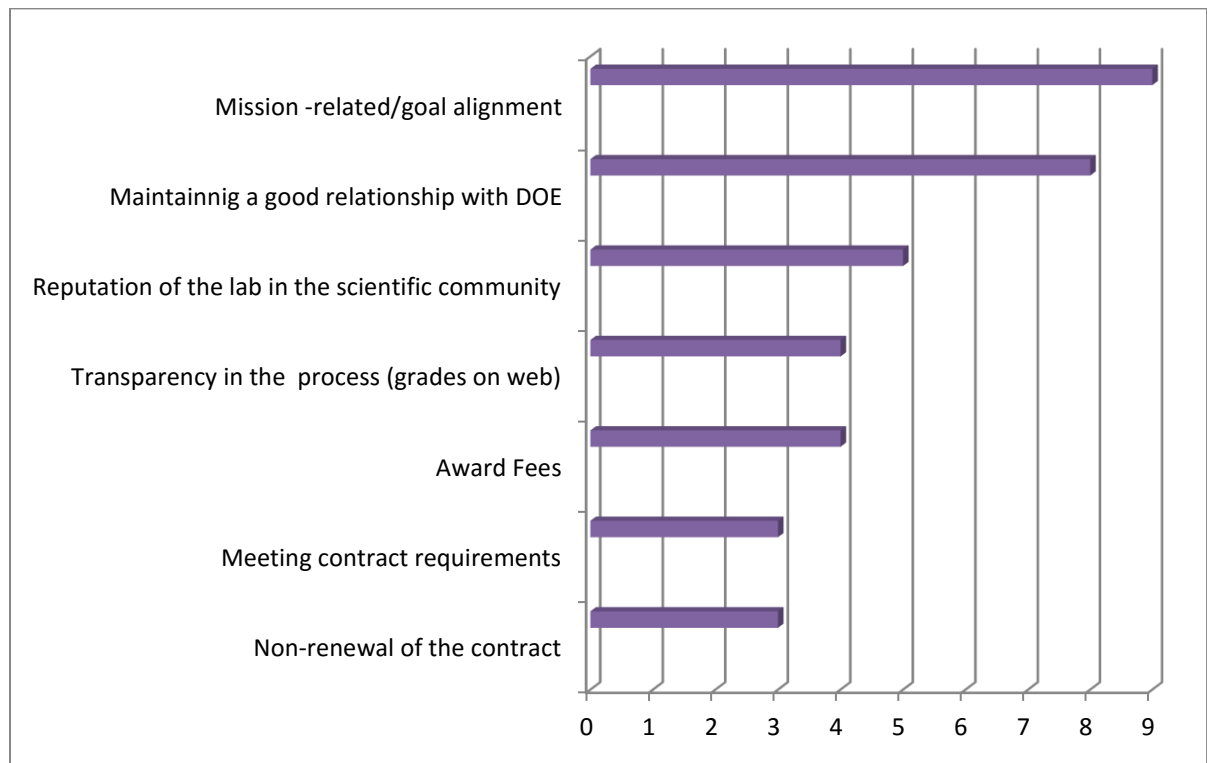
Of the government personnel who participated in the research, the majority (4 out of six) acknowledged that from their perspective, the award fee paid based on contractor performance was less of a motivational factor for performance for the contractor personnel since many of the contractors operating the laboratories are non-

profit or academic institutions and therefore did not rely upon the award fee revenues substantially. One of the personnel acknowledged that the award fee was important to their laboratory as the parent utilized the award fee revenue to offset administrative costs that are incurred in operating the laboratory. These costs are not directly billed to the contract. For the majority of the laboratories, the amount of award fee received was small in comparison to the overall parent organization's operating budget. Additionally, many of the parent institutions contributed funding from other resources, including state and local resources, to assist in supporting and offsetting laboratory expenses. Of note is the perception that the potential threat of contract non-renewal was perceived of greater importance by the government than the award fee. This was reported by five out of the six government respondents or 83%.

Contractor Personnel. For this study, the reported motivational factors of the contractor personnel in performing under the contract are significant in determining the perception of the contractor as simply an agent in the contractual relationship or as a steward. With this aspect, the actual reported information is from the participant's first hand lived experience in their daily activities in performing under the contract. The individual participant was asked specific questions regarding what motivates them individual and if they perceived that the same motivations existed within the organizational culture and across the organizational leadership. Thus the report of this information reflects not only the opinions of the individual participant, but their own perception of other members of the organizational leadership and organizational culture.

The chart below summarizes the findings:

Figure 12 -Top Motivators for Contractor Performance (DOE OSC Laboratories)



For the most part, the results are similar in some aspects to the results reported for government personnel. Of the twelve contractor participants, nine of the twelve (75%) specifically cited that the mission of the laboratory itself was a key motivational factor for performance. Individual participants cited a personal belief in their individual laboratory's mission and had a strong linkage between the science and research that was occurring at the laboratory and the perception that the work was beneficial to the DOE's overall goal and objective. The following articulates this perspective from multiple participants:

"I truly believe in the mission and I truly believe in the idea of a national lab system that exists to meet these inherently governmental missions. I believe that working on our science which is a long-term, high-risk, in terms that it may not work in the long term, but I think it's an area of science that the world needs and the only entity that is going to continually pursue something like that for the world in the long term is the U.S."

government or governments around the world but the U.S. government being one of them. I truly believe in that kind of mission so that motivates me day in and day out. I want to make sure that we're meeting the contract because I believe that I personally and the organization that we have here is providing the forum and the atmosphere for researchers to want to come into this field to do their best work, to develop the plans and pass forward so that we can all continually march forward with the science."

"My main motivation is meeting the science goals. My goal is not to meet the PEMP. My goal is to have an impact and the PEMP should measure that. So in goals 1, 2, and 3, it's all about the scientific impact and delivery of science and leadership. And so I don't view it as my goal to the meet the PEMP. My goal is to go way beyond what the PEMP expects. I think if you get focused on achieving the goal of the PEMP, you are totally underselling what you need to do on the science side."

"We exist to be the very best in science and technology so that we can apply those capabilities, the very best people we have, in solving DOE mission imperatives in energy and national security. So we understand that we are a mission-oriented laboratory. We understand that the best way to execute that mission orientation for DOE is to ensure that this laboratory is the very best in the world when it comes to science and technology and that we operate this laboratory safely and within the DOE rules and regulations."

"My main motivation and accountability is to the research mission of the lab, but right behind that in my mind, the accountability to the DOE."

"On others at the laboratory, the researchers here are very motivated by the research and the excitement of the research. Some of them think broader in longer terms, like they're motivated by this long-term goal of creating 'fusion'. Some of them quite honestly are much shorter term or really focused. They are interested in understanding about the density of variation of the spheres that surround the black hole."

This finding demonstrates that a critical motivational factor for the contractor is intrinsic to the role the contractor plays and is more linked to the underlying scientific activities occurring at the laboratory and the organization's research mission rather than any specific contractual mechanisms that exist in the M&O contract or the requirements imposed on the contractor in the PEMP.

Secondary to the mission and alignment with DOE goals and objectives, is the desire to maintain a good working relationship with the DOE. Just as mission alignment was found across the leadership disciplines (scientific and non-scientific), this was also significantly reported by eight out of the twelve participants (67%) responded that maintaining a good relationship with the DOE was an important motivational factor. This included receiving potentially positive feedback from the DOE for its activities either informally or from the PEMP process. This factor was inextricably intertwined with the perception that in doing good work, the level of trust in the relationship would increase and thus yield a positive outcome in both the relationship and performance. Examples of this perception are articulated in the statements of participants as follows:

“Well, that’s certainly one of our key customers. From a day-to-day standpoint, our customers are science operations [DOE]. So, if they are happy, they are doing good science, that makes the site office happy, and we continue to get good feedback.”

“So, part of that is as a newer employee at the lab, I want to make a difference and so I want to hear from the site office how we can improve in our performance and I mean, this sounds crazy, but for me I actually work towards that.”

“Maintaining a good relationship, well that goes back to building that relationship and that trust. If they put it in the [performance] plan and you’ve ignored it, they’re not going to trust you very far.”

“Because we have this shared vision, I know he’s [DOE] going to be happy because he was a part of it and we accomplished it together, and people like to be acknowledged for their contribution. “

“We see maintaining a good relationship with the DOE as essential. But I think the primary way we achieve that is through this continuous communication with program managers.”

“We need and must have a good relationship with our sponsor in order to keep the mission going. We have this very important stewardship responsibility here that is not just about the experiments getting done today, but we have to make sure that they get done reliably and safely here to assure that the experiments next week or next month or next year or next decade, can happen as well.”

The reputation of the lab and maintaining a good reputation in the scientific community was also an important factor cited by study participants. Specifically, five of the twelve participants (42%) cited the reputation of the laboratory in the scientific community (nationally and internationally) as a motivational factor. In some instances, the reputation of the laboratory was linked to the reputation of the parent organization itself. This was specifically noted for institutions where the parent was an academic organization.

“Certainly I think this is a motivational factor at the lab level. We all want to protect at some level the reputation of the university. We all want to make sure that laboratory is known throughout the world as a leader in its scientific field.”

“We’re now being recognized as a good example, especially in certain specialty areas. We’ve had other labs calling us now asking us for input into how we do things. There is actually a pretty good working relationship between the laboratories. So there is a lot of collaboration, communication and benchmarking that results.”

“For us, it’s primarily the standing of our university as an institution. From my perspective, I see the laboratory had a history of doing world-class science. And being associated with the university and having that institutional history, I think the thing that motivates me is to

try to continue to produce world-class science and of a very high quality.”

Aligned with the motivation of the contractor to maintain the reputation of the laboratory, the contractor participants reported, although less significantly, that the transparency of the PEMP process, including the fact that laboratory grades were made publicly available on the web, was of lesser importance in motivating contractor performance. Participants stated this point in the following:

“I don’t think we’re motivated so much by worrying about whether people see our PEMP goals and grades. We certainly get feedback from peers. I would say more of the feedback we get from people in the scientific community or the international community, for example, is just a lack of understanding as to why a B+ in Goals 5-8 is okay. In some regards, it’s okay and in other regards, it’s not okay. It’s not okay to be a B+ student, per se and that is what they’re referring to. But in the DOE world, it just happens to be the grading system that is used to say a B+ maximizes a C and it is sort of the Office of Science’s way of recognizing that, “We want you to be good, but above good we want you to put the rest of the resources into the research.”

“I think it’s a great idea to have transparency in the process, but that doesn’t motivate me to try to outdo another lab. What motivates me is to do the best science that we can do.”

“They (the grades) don’t motivate as much as the tendency that I see is that if there is a vast goal, then that tends to put pressure on upper management in the laboratory to be risk-averse. I’m not going to risk getting a bad score again, so I’m not going to go and push this envelope or that envelope. Now, if it’s a bad score, because you’ve been incompetent, I think it’s very reasonable that somebody should be removed.”

“We’re not doing what we do to focus on the grades. We’re doing what we do to help the scientists to perform their science safely. Yes, if

we've got a bad grade, well first of all, we'll never get surprised that we are getting a bad grade."

Role of Incentives and Sanctions. The results of this research reveal that the incentive fee (portion of the contract) is less of a motivator of contractor performance than other factors in the formal contract or the contractual relationship. This is particularly the case when the laboratory is operated by an academic institution, a fact perceived by government personnel as academic contractors having a greater perceived linkage to the laboratory (and DOE's) mission and a shared vision of the mission, goals and objectives. This perception by the government is consistent with what has been reported by the contractor personnel, noting that in many instances, the parent organization contributes its own resources or seeks resources from local and state government officials to assist in operating the laboratory.

Government personnel also noted that while the contractor is aware of the fact that consistent low performance scores (less than a B) will result in a re-competition of the contract for the operation of the laboratory, this potential sanction for low (poor) performance was not a primary motivator for performance. Likewise, contractor personnel perceived this as simply a fact under which the contractor must operate and while keenly aware of it in its operations of the laboratory, no individual participant on the contractor's side reported this potential sanction as a significant performance motivator in operating the laboratory.

Perceptions of How the Relationship Evolves (Relationship Evolution)

Over time, every contractual relationship, including the government-contractor relationship, evolves over time and longevity of the relationship plays an important role in determining both levels of trust, monitoring and oversight, communication and other perceived agency or stewardship characteristics. In this study, a look into how and if the relationship between the government and the contractor has changed and evolved over time is significant in determining levels of agency and levels of stewardship in the relationship. The results for both the government and the contractor regarding how they each perceive the relationship evolving over time are summarized in the following sections.

Government Personnel. The results from the interviews with government participants acknowledge that the relationship between the government and the contractor evolves over time. Government participants recognize that when new contractor leadership comes on board, the relationship essentially “resets” to a point where there is a learning curve for the new person and an opportunity to establish roles, responsibilities and trust. The interrelated nature of trust and communication was also acknowledged by many government participants interviewed. The government participants unanimously cited “trust” as being built through communication which occurs beyond the contractual requirements and builds over time.

“Let’s trust each other so that we can treat each other like adults and deal with the facts as they are so that we can figure out what happened so we can avoid it again.”

The government personnel acknowledged that laboratory personnel often have a “learning curve” about the DOE and the DOE M&O contract as well as other DOE

regulations and requirements. When there are problems with performance, the DOE Site Office personnel interviewed indicate a willingness to work with the contractor personnel to resolve the problems initially using the contract specifications and requirements including the mutually agreed upon Quality Assurance Plan. A few of the government personnel interviewed cited the importance of the role of the Partnership Agreement. As previously noted, the Partnership Agreement is an agreement entered into between the laboratory contractor personnel, the parent organization of the laboratory contractor personnel and the DOE Site Office to gain a mutual understanding of the roles and responsibilities of each, in the operation of the M&O contract. This mutual understanding at the outset of the contractual relationship was determined by some of the personnel as important to the relationship, but overtime becomes less important as the relationship evolves.

Contractor Personnel. The perceptions of the contractor personnel about how the relationship evolves over time are key to determining both agency and stewardship theories. According to contractor personnel interviewed, they cited the expectation that DOE local site personnel arrive with a good understanding and expertise in managing and operating the laboratory. Government personnel who arrive without the expertise are at a disadvantage as contractor personnel are relied upon to provide information about laboratory operations. This may result in an “imbalance” in the relationship or a delay in the government’s ability to build trust in the contractor.

“A good local site office manager has the necessary expertise and technical skills to make good sound judgments, acting in the lab’s best interest. Technical expertise is good characteristic to have as well as ‘courage’ and ‘competence’ on both sides of the relationship.”

Many of the contractor personnel noted the significance and considerable importance of relationship success being built upon the individual in the DOE Site Office. Thus, from the contractor personnel, the qualities and characteristics of the leadership at the DOE Site Office locally is critically important to the government-contractor relationship.

“Issues in the relationship with the DOE Site Office often vary with the individual in the position. This includes individual personalities, commitment to the role, understanding of the mission... are all critically important to the relationship.”

Just as with the government personnel interviewed, the contractor personnel cited that “trust” is built over time in the relationship and that when trust is eroded in the relationship, the relationship declines. The parties learn over time about each other’s styles and adapt accordingly to both leadership and communication styles. Additionally, as a result of building trust in the relationship, over time the relationship becomes more collaborative. The formal meetings and required contract communications continue, but more infrequent meetings and communications occur, with less reliance on documenting the nature of the communication for fear of misunderstanding. There is also less reliance on the Partnership Agreement by the parties to ensure an understanding of the individual roles and responsibilities of the contracting parties and to gain goal and objective (mission) alignment. The contractor personnel cited that both parties become “more invested” in the laboratory’s success.

With regards to performance management, the performance measurement outcomes are not surprising for the contract as a result of increased communication and

feedback on performance that occurs outside of the performance cycle. By not perceiving the government's role as "policing their activities" or as having a "got-cha" oversight and management style, the contractor is able to accept critical feedback, offer suggestions themselves that may be adopted by the government in making corrective actions and continue to provide important information to the government personnel without fear in a non-punitive environment. This was cited by laboratory personnel as one way that the relationship is able to "sustain trust" over time.

Additionally, the contractor personnel cited the perception that there is less reliance by the government on the Quality Assurance Plan to monitor and provide oversight in the relationship. As noted above, the Quality Assurance Plan is a part of the contract, prepared primarily by the contractor but approved by the government personnel, as a mutually agreed upon plan for oversight and management of the laboratory. According to contractor personnel, over time the Quality Assurance Plan becomes an important understanding between the parties and not a tool in which to keep performance levels under the contract high. It was suggested by one study participant that it simply becomes "a set of foundational ground rules for performance over time". Likewise, the PEMP was cited as not a motivational factor or as incentivizing laboratory contractor performance as the relationship evolves. Instead, it becomes a tool for understanding the expectations of the government and how performance is measured under the PEMP.

Of note, were comments from contractor personnel during the interview process which suggested "sympathy" for DOE local site personnel for the role they must play in providing local oversight with the primary responsibility for the management of the lab

being at the DOE Office of Science Headquarters in Washington. This sympathy was noted as often growing over time by contractor personnel as they gained a greater understanding of the role of the DOE Site Office as opposed the DOE Headquarters and as the interpersonal relationships grew with the DOE Site Office. The contractor noted becoming more accepting of both the political hierarchy that exists as well as the “DOE bureaucracy”.

CHAPTER V

ANALYSIS AND DISCUSSION

Introduction

This research has explored the perceptions of government personnel and contractor personnel of the contractual relationship. The objective was to explore how the perception of the individual participants, as either agents or stewards, influences the contractual relationship and to explore how the perception might influence performance under the contract. To recap, this study has been guided by the following central research question:

1. How does the perception of the relationship between the government and the contractor, as agent or steward, influence the government-contractor relationship and ultimately the contractor's performance?
2. To what extent do the parties perceive that information is shared in the government-contractor relationship?
3. To what extent do the parties perceive the level of trust that exists in the relationship?
4. What factors do the parties perceive motivate the contractor's performance?
5. How do the parties perceive that the relationship has evolved since the beginning of the current contract period?

Both the multiple-case study methodology and interview analysis conducted as a part of this research study provided a valuable exploration into how the perceptions of the parties, influence the government-contractor relationship. This section provides an

analysis of such factors as the communication levels and information sharing between the parties, the alignment of goals and objectives, the level of trust and respect between the parties and other factors that characterize the relationship as either agent or steward. The information from the multiple-case study obtained included from the interviews, which were subsequently used in the interview analysis discussed below, a review of performance scoring trends for the four laboratories selected for analysis from 2009-2014 and the narratives provided by the government evaluator for each corresponding period of evaluation. Although this presented only the government's perspective in the evaluation, a holistic review of the information as presented was able to provide some insight into the contractor's response to performance feedback. This response to performance feedback was useful in evaluating if performance feedback through the PEMP process was viewed by the contractor as constructive and collaborative in an effort to build the contractual relationship. Finally, the case study analysis also highlighted numerous other factors that may influence performance outcomes and performance measurement in the government-contractor relationship. Both of these aspects of the research study are analyzed and presented in this section.

For this study, the analysis is reported based upon the theoretical framework and divided by the major themes as follows:

- Perceptions about Communication and Information Sharing
- Perceptions about Trust and Decision making/Autonomy
- Perceived Factors that Motivate Performance
- How perceptions may influence performance outcomes
- Other findings related to the contractual relationship

This chapter links the research findings with the information derived in formulating the theoretical framework including the information from the literature review about agency and stewardship theories, relational contracting, contractor accountability and performance. The objective is to highlight how the perceptions of both parties influence the contracting relationship and the contracting outcomes, particularly the outcomes related to performance. This includes the contractor's ability, willingness and desire to meet contractual goals, objectives and notable outcomes in the context of the DOE's Performance Evaluation and Management Program (PEMP). The results presented here will enhance the understanding that can be gained from the data findings presented in the prior chapter and allow for conclusions to be drawn that may be utilized both in future research on government contracting and in ways to improve contractor performance by changing the relationship structure.

Review of Results and Findings

Communication and information sharing is a critical aspect of the relationship.

Communication is an important tool used in the government-contractor relationship, providing a foundation for building many other aspects of the relationship including trust, respect and aiding in performance feedback. Formally, it is used by the government to establish the contractual requirements, provide policy guidance and to clarify goals, objectives and notable outcomes. It is also used to provide formal feedback under the PEMP. It is used formally by the contractor to respond to formal contract requirements, including reporting based upon established deadlines and deliverables and to report back to the DOE on laboratory activities and operations.

Informally, the government utilizes communication for information sharing about its expectations on a more day-to-day basis and for obtaining information about operational issues. As noted across the interviews, informal communication is frequent, occurring by email, phone calls and ad hoc meetings. From the government's perception, the levels of communication were adequate but not all information is communicated by the contractor to the government about laboratory operations, nor was it expected to be. From the contractor's perspective for those individuals interviewed, the level of communication with the government was also adequate.

In the traditional principal-agent relationship in government contracting, the contractor would primarily share information based primarily upon the formal contractual requirements. The agent withholds or fails to share or fully disclose information to the principal when it is perceived as unnecessary or not beneficial, creating the perceived "moral hazard" (Eisenhardt, 1989; Van Slyke, 2007). Likewise, the principal shares only the information required (or mandated) or deemed necessary for a functional relationship with the contractor and to meet the contractual requirements. In this study, the findings indicate that both parties, the government and the contractor, view communication and information sharing as mutually beneficial beyond the formal contractual requirements in the M&O which support a principal-agency relationship. The informal exchange of information is viewed by the parties to the relationship as building various aspects of trust, respect and adding to ensuring mutual goal alignment and clarity around expectations.

The consensus among government participants from their perceptions is that the current contractors operating the laboratory provide the information needed by the

government in operating the laboratory and that generally, information is not withheld. When there are communication breakdowns, the cause for such communication breakdowns are perceived by the government as related more to a misunderstanding of requirements or a judgment call made by the contractor as to whether the communication was necessary rather regarding the DOE's role rather than simply withholding of information.

For the instances where it was perceived that information sharing does not occur, it was due to a miscommunication about the communication requirement or a lack of trust. The lack of trust occurs when new parties enter into the relationship, either as representatives of the Government or of the contractor. As the relationship grows over time, the trust builds, the communication improves and information sharing occurs. Thus, from this research, where relationship longevity exists, the levels of trust and communication increase leading to transparency and free flow of information sharing. This result is an indicator that government personnel perceive the contractor as "stewards", after a period of time in which the trust in the relationship has been built and established to a level that the government, as the principal, perceives the contractor is freely sharing and exchanging information. In contrast, the contractor will generally provide the necessary information mandated by the contract, in accordance with the contract terms and conditions, until such time as the relationship has evolved (generally due to longevity) and the contractor perceives there is trust in the relationship, information sharing is beneficial and non-punitive and that it will build upon the relationship the contractor has with the government. Thus, the contractor will engage in information sharing beyond the contractual requirements when it is perceived as

beneficial to the contractor and to the government-contractor relationship. This indicates that the relationship for the contractor maintains agency characteristics and later evolves into stewardship.

Of particular note on the issue of information sharing, is the perception that when trust is broken in the relationship, for reasons such as a miscommunication or a lack of communication (inadequate communication), the relationship essentially “re-sets” and trust in the relationship between the parties, and the level of communication and information sharing, must be re-built and re-established. This supports the contention that while the relationship exists along a continuum beginning at one end of the spectrum with principal-agency, it can evolve to principal-stewardship, and subsequently revert when the level trust is broken.

The nature of the relationship between the DOE Office of Science Headquarters, the DOE Site Office for each laboratory and the Contractor (including the parent organization) was insightful and useful to evaluate the perceptions of the parties. From the government’s perspective, the DOE Site Office, which has local oversight responsibility for the operation of the laboratory, was perceived as and often viewed as the “middleman” between the DOE Office of Science Headquarters and the Contractor. This required the respective Site Office to communicate from time to time, the policies or requirements to the laboratory that it did not necessarily agree with, citing times when broad sweeping governmental policy changes were implemented when it was not necessarily based upon events that occurred at the specific laboratory or any DOE laboratory facility. This was found to be particularly the case when an environmental health and safety issue which may have occurred at one of the lab and OSC’s response

constituted an overreaction. In this role of middleman, the local Site Office was placed in the precarious position of implementer of unpopular policies, which garnered sympathy from the contractor. It was also a source of frustration for both the contractor and the DOE Site Office.

For those government participants who were willing to push back, there was a sense of frustration with having to implement requirements that they felt were not necessary at their laboratory site or that they did not support generally. This was accepted by some participants as “the DOE way of doing business” or “the government way”, with all of the participants reflecting on the government’s recent enactment of a new conference travel policy. Under this policy, the laboratory personnel must seek the DOE Secretary’s approval to and from conferences.

Just as the DOE Site Office personnel indicated frustration, likewise laboratory contractor personnel also stated their frustration at times with the requirements imposed by the DOE Office of Science. For the scientific participants who were interviewed, this was particularly relevant to the perception of characteristics of agency versus stewardship as there was a general sense of less autonomy, a lack of respect for their role, particularly being “boots on the ground” and a lack of trust. The two study participants who were scientists at the laboratory commented that although they recognized that DOE was contracting with them to conduct mission-related scientific activities they felt, as individuals accountable for operating the laboratory, they had a better understanding of the scientific mission and what science needed to be or should be conducted at the laboratory. Likewise, the contractor administrative personnel often cited being “boots on the ground” and knowing what was necessary to operate the

laboratories. The administrative personnel who participated cited that the local site office personnel were generally very familiar with what was necessary for laboratory operations.

Information Sharing and Communication. Information sharing, facilitated by communication, is an important aspect of the contractual relationship. Information is shared through formal means such as reporting, which is often identified in the contractual documents as a deliverable. Information is also shared informally, via ad hoc or impromptu meetings and interactions, phone calls and emails. The purposes for communication go beyond simple information sharing however, and include for oversight and monitoring and providing performance feedback. The results of this study highlight the perception of both parties to the government-contractor relationship in the operation of the federal laboratories of the importance of communication as a means to share information. From the government's perspective, providing the contractor with information was not only a contractual necessity, it was a means of ensuring clarity in the understanding of contractual objectives and the government's mission in the operation of the laboratory. Additionally, the value in communicating with the contractor about ongoing laboratory operations was one way the government perceived improved the contractor's ability to meet the expectations of the contract. Under the M&O contract, the government was required to provide at least semi-annual performance feedback to the contractor. Most government participants acknowledged and agreed that performance feedback, provided even informally, was a valuable tool and likely to improve anticipated performance outcomes.

Similarly, the contractor perceived the willingness of the government to provide feedback beyond that required by the terms and conditions of the M&O contract as an effort by the government to collaborate in meeting the goals, objectives and notable outcomes and in the overall operation of the laboratory. The results demonstrate that the contractor perceived the purpose of communication as critical feedback that was mutually beneficial and to afford the contractor with the maximum opportunity meet expectations. Where we see elements of agency in the government contractor relationship includes the occasions found in the results where the contractor perceived that communication was not necessary, either because of the respective roles and responsibilities of the parties to the contract or because of a desire to avoid negative consequences.

This is also evidenced in the perception of both parties in the “onsite presence” of the government at the laboratory. The purpose of the onsite presence was reported in the results as to facilitate communication and oversight and monitoring. These results are exemplars of the formality that exists in the contractual relationship, demonstrating agency characteristics rather than stewardship. However, additionally, the participants reported the value in onsite presence, viewing it is an opportunity to build trust, collaboration and stewardship in the relationship and an opportunity to receive immediate feedback for performance. In the principal-agent relationship, if the principal perceives the contractor as an agent, the principal will perceive the need to be onsite and to engage in personal observation of activities at the site as a way to gain information about laboratory operations because insufficient information is not provided by the contractor. As a result of the lack of information, the principal may be reluctant to

delegate decision making to the agent out of concerns for the information asymmetry that exists or that the goals and objectives are not in alignment. This fosters concerns by the principal that the agent may act in a self-interested manner or against the interests of the principal.

Perceptions about the Levels of Trust. Trust is an important element of the contractual relationship. Low levels of trust (distrust) are indicators of agency while high levels of trust lead to autonomy in decision-making and delegation by the principal and the agent, indicating characteristics of stewardship. Trust is built through open, honest and transparent communication, all of which were cited as important by study participants. As a part of this study, communication between the government and the contractor was evaluated, reviewing the perception of both parties. As the results show, both sides perceive the value-added from both formal and informal communication, particularly communication that occurs at regular and routine interval. This communication was beyond that specified by the contract in reporting requirements. Thematically, across the qualitative interviewing aspects of this study, this informal communication, via impromptu meetings, phone calls and emails, was perceived as building trust in the relationship, fostering a spirit of mutual respect for the roles and responsibilities of each party and avoiding the “information asymmetry” that is often characteristic of the principal-agent relationship. Further, key themes that emerged support this based on the interviews such as the need to avoid the “got-cha” that could potentially occur when the government is surprised by information not previously shared or disclosed by the contractor in the management and operation of the laboratory. When information was not shared by the contractor, trust in the relationship declined and the

government's role was perceived as not just monitoring and oversight, but policing of the laboratory contractor's activities.

From the case studies, it was also clear that when communication is inadequate or lacking between the government and the contractor, the government perceived that the contractor withheld information, either inadvertently or deliberately or had determined that involving the government in the issue or decision making process was unnecessary. Thus, the contractor's actions were not to deliberately (intentionally or maliciously) withhold information per se but the contractor personnel believed based upon their role in operating the laboratory that sharing the information at the time with the government was not required or was unnecessary.

Perceived Motivations in the Contracting Relationship. What motivates contractor performance is an important determinant of the existence of a principal-agent relationship versus a principal-stewardship relationship. How each party to the contractual relationship perceives what motivates performance is a critical element of this research study. In agency based contractual relationships, contract rewards and penalties are examples of extrinsic motivators for contractor performance. In stewardship based contractual relationships, the literature suggests that the contractor will be less motivated by extrinsic factors (such as formal rewards and penalties) and more motivated by intrinsic factors (e.g. reputation) (Lambright, 2008).

From the results, it is clear that the established contractual motivations, such as award fee and the potential sanction of non-renewal of the contract, both play a minimal role in motivating contractor performance. This finding, particularly in the context of

the contractor, was surprising and indicates that to a greater degree, the contractor perceives the relationship as one of stewardship rather than agency. This is further supported in evaluating across all reported motivational factors, both the award fee and potential for non-renewal of the contract were noted by the contractor personnel as closely linked and near the bottom of the primary motivations. Such weak motivators for contractual performance are linked more towards stewardship as the basis of the contractual relationship than agency.

Consistent with the finding of incentives and sanctions being of lesser importance is the finding that intrinsic rewards and motivators (including reputation, trust and relationship building with the government) were cited as strong motivators for contractor performance by contractor personnel. The desire to do “good science” and to be “good stewards of taxpayer funds” was also cited by participants on both sides as primary motivators. These perceptions indicate an alignment of the parties to the contractual relationship with the DOE’s mission in operating the laboratory and strongly support the finding that the relationship is based upon principal-stewardship rather than principal agency.

Perceptions about Relationship Evolution. Understanding about the perceptions from the individual participants about how the government-contracting relationship evolves over time is important to understanding the applicability of agency and stewardship theories. From this research, the findings suggest that trust builds over the length of the relationship, as the parties build communication and information sharing. The government, while initially relying upon the contract specifications and the on-site presence to manage the contractor, transitions during the relationship to relying

on the shared vision and understanding of the mutual mission and objectives of the contractor and the alignment of the contractor with the established goals and objectives and mission for operating the laboratory.

Changes in leadership on either side also have an impact on the relationship. As new entrants into either role, as government oversight locally or as contractor leadership, acclimate to their roles, their individual leadership styles as well as communication styles play a role in how the relationship evolves. These individuals bring their own past experiences and expertise to the new role and thus influence the organizational culture and leadership style. This in turn results in changes in the relationship. Evidence of this is cited in reviewing comments from laboratory leadership that has been with the laboratory for a lengthy period of time and those individuals at the laboratory who have been in their roles for only a limited period. For example, the following was stated by participants:

“A change in the management resets the relationship, trust must be re-built, re-established.”

“The qualities you want to have in the site office leadership is someone who is collaborative. If they (the site office) have a good relationship with you, they may ask for some advice. If they’re happy with the way the lab operations are going, they tend to be more collaborative.”

Therefore, as might be expected, the role of the leadership on the government side, and the style of management and oversight of the government personnel in providing local oversight to the laboratory are extremely important to the contractual relationship. This drives the organizational culture of not only the government but has a significant influence on the organizational culture and leadership style of the contractor,

as reflected in the contractor's actions and behaviors in response to the government.

Where the government personnel are perceived as "disinterested" or lacking in a vested interest in the laboratory's success, contractor personnel cited lesser engagement in communication (beyond the requirements of the contract), information sharing and responsiveness to feedback.

Other Relevant Findings and Analysis

With the current operations of the DOE laboratory, the M&O Contract and its relevant documents related to the contract as well as the PEMP process are important to the relationship. However, based upon the results of this study, formal contract specifications become less important as the relationship evolves over time. With regards to organizational demographics, the responses from the participants to many aspects of the relationship, particularly the motivational factor, did not vary based upon the organization type (for-profit, non-profit, academic) significantly. The size of the laboratory also had little impact on the responses. Specifically, contractor participants from the larger labs with academic affiliations varied little in their responses from their smaller counterparts and expressed similar perceptions about both trust and information sharing in the government relationship. The "win-win" for the government was obtaining goal alignment similar to principal-stewardship while still acknowledging the formalities of the principal agent relationship. Finally, as suggested by Romzek & Johnston (2005), having clearly identified roles and responsibilities aided the government contractor relationship in ways towards stewardship as understanding accountability and responsibilities is critically important.

Summary

In this study, the findings suggest that the contractual relationship is highly complex, evolving and that it often exists as both agency and stewardship at varying levels within the relationship. At times, the contractual relationship may have attributes of high levels of agency and low levels of stewardship and vice versa. Early in the contractual relationship, trust for example may not exist at high levels that are considered to be qualities of stewardship. As the relationship evolves over time, however, the findings suggest that relationship dynamic moves along the continuum between agency and stewardship as such relationship characteristics as trust and respect increase over time. This trust is built by communication and information exchange, mutual goal attainment and the building of greater interpersonal relationships between the parties.

As Lambright (2008) noted, “situational factors” can influence the actions of the parties to the contract. This includes the communication and leadership style of the parties, both on the government’s side and the contractor’s. Both leadership and communication styles influence organizational philosophy and culture (Lambright, 2008). Where leadership lacked a vested interest in the outcomes, this influenced not only the communication and leadership style in providing oversight to the contractor, but is also evidenced in the performance measurement and performance management processes. This is particularly of note in evaluating the content of the performance management documentation narratives and the related scores. Where there was a change in government personnel or where government personnel only served in an acting capacity, the results of multiple case study analysis indicate that the “temporary”

government personnel had less of an interest in providing meaningful and useful feedback to the contractor to improve performance. Instead, the performance measurement information simply restated that goals and objectives, as described, were met with very little meaningful feedback provided. Likewise, the scores were higher than when an individual serving not serving in an acting capacity conducted the evaluation of the laboratory.

Future Research

Contracting by the government will continue to be a major activity of the public sector manager in meeting agency goals and objectives. How to improve the alignment of the contractor with not only contract goals and objectives but the agency's mission is a critical aspect of this research and should be of future research conducted in this area. While considerable research has been conducted on underlying theories such as agency and stewardship, more practical, solutions oriented research is suggested for future study. This includes exploring further how the contracting relationship design should be factored into performance management regimes utilized to measure contractor performance. A number of areas of this research are potential areas for future study and should be considered. This may include a more extensive study of the structure and influence that performance management regimes have on the relationship and whether such regimes, when mirrored after collaborative concepts that are foundational to stewardship theory versus those foundational to agency theory, are likely to yield greater performance outcomes. Understanding the conditions in which optimal performance is achieved in government-contractor relationships, particularly in high performance

research organizations, will be useful in not only designing adequate performance evaluation systems but in incentivizing contractor performance.

CONCLUSIONS

This research seeks to explore through both a multiple-case study analysis and interview analysis how the perceptions of the parties to the contractual relationship influence the contractual relationship. The contracting relationship consists formally of an agent and a principal. The agent is tasked by the principal to carry out the contractual objectives. The DOE Office of Science laboratories offer a unique lens in which to study the government contracting relationship and how the perceptions of the parties impact high-dollar value contracting in the research context.

Research thus far into this area has analyzed and evaluated agency and stewardship theories as both competing and complementary theories. (Bundt, 2000; Donaldson and Davis, 1991; Davis, Schoorman, and Donaldson, 1997; Dicke and Ott, 2002; Van Slyke, 2007). This research study was designed to explore this debate in the context of high performing government contract research laboratories, primarily through the lens of both parties to the relationship, the government as principal and the contractor as either agent or steward. The findings from this research suggest that the government-contractor relationship is highly complex, both in its formal structure through contract documents as well as in the nature of the relationship between the organizations. Organizations themselves function through the individuals who are part of the leadership team. These individuals establish the organizational culture and determine compliance with both contractual requirements and performance expectations. Understanding the government-contractor relationship at the highest levels within the organization is a critical aspect of managing the government outsourcing process. Public managers can no longer rely primarily on the incentives and sanctions in the formal

contracting documents to achieve contractor performance, nor can managers simply operate under principal-agency theories in the contracting relationship. Much more detailed attention must be paid to perceptions of the contractors and how those perceptions impact and influence the contracting relationship. Ignoring the role of the perceptions has the potential (and tendency) to influence performance outcomes.

In many settings, including the federal national laboratories, both government and contractor employees often work side by side to meet the government's contracting objectives. The continued expansion of government outsourcing mandates that public managers understand the nature of the contractual relationship beyond the formal contract specifications to prevent the fraud, waste and abuse of taxpayer dollars that makes outsourcing a high-risk area for the federal government (Voelz, 2010). The government, in its capacity in establishing the contract, can structure both the formal contract and the performance management system in a manner that can influence the likelihood of achieving the contractual goals and objectives and the desired performance outcomes. The government personnel charged with this arduous task of establishing the contractor accountability systems can structure the contract and the incentives in a manner that recognizes and rewards those stewardship characteristics including goal alignment and other collectivist behaviors of the contractor. An accountability system that relies solely on extrinsic rewards may not be appropriate in every context or for all contractors. Due consideration should be given to the multiple motivational factors that may exist in the contractual relationship. Therefore, any accountability system or performance management system designed should incorporate a mix of motivational factors to achieve high levels of performance.

APPENDICES

LISTING OF APPENDICES

Appendix A – Chart of DOE Office of Science Laboratories

Appendix B – Description of the DOE Office of Science and the PEMP Program

Appendix C – Semi-Structured Interview/ Matrix – Contractor/Government

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Appendix F - Interview/Survey Consent Letter

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Appendix A – DOE Office of Science National Laboratories

Laboratory Name	Contractor	Laboratory Description
Ames Laboratory (AMES)	Iowa State University (Public Institution)	Established in 1947, AMES's mission is to create materials related to applied energy technology and nonproliferation programs.
Argonne National Laboratory (ANL)	U Chicago Argonne, LLC (a limited liability corporation established by the University of Chicago)	Current major research initiatives include hard x-ray science, providing leadership in computational science, energy sources and storage, materials and molecular design/discovery, regional climate and bio-geospheric interactions and national security
Brookhaven National Laboratory (BNL)	Brookhaven Science Associates (public-private partnership between Stony Brook University and Battelle Memorial Institute)	Established in 1947, BNL maintains expertise in physical energy and life sciences with additional expertise in environmental sciences, energy technologies and national security.
Fermi National Accelerator Laboratory	Fermi Research Alliance (FRA) an alliance between the University of Chicago and the Universities Research Association (a consortium of 86 research universities).	Fermilab advances the understanding of matter, energy, space and time by providing resources and leadership to scientists conducting particle physics and related scientific disciplines.
Lawrence Berkeley National Laboratory	University of California, Berkeley (Public Institution)	Founded in 1931, LBNL provides critical national scientific support in multidisciplinary areas including physical, chemical, biological and earth sciences research.

Oak Ridge National Laboratory (ORNL)	UT-Battelle, LLC (Public-Private Partnership between the University of Tennessee and Battelle Memorial Institute)	The mission of ORNL is to deliver scientific discoveries and technical breakthroughs that will accelerate the development and deployment of solutions for clean energy and global security.
Pacific Northwest National Laboratory (PNNL)	Battelle Memorial Institute (Non-profit Private Institution)	PNNL's mission is to advance the molecular and environmental sciences and engineering in support of DOE and national needs.
Princeton Plasma Physics Laboratory (PPPL)	Princeton University (Private Institution)	As a collaborative national center for plasma and fusion energy sciences, PPPL develops the scientific knowledge of fusion energy as a clean safe energy resource and to develop plasma science as a part of broad range of physics applications.
SLAC National Accelerator Laboratory	Stanford University (Private Institution)	SLAC is a multi-program laboratory involved in materials research, chemical science, energy, structural biology and particle physics.
Thomas Jefferson National Accelerator Facility	Jefferson Science Associates, LLC. (SURA and PAE – partnership of non-profit institution and for profit corporation)	The primary mission is the use of the Continue Electron-Beam Accelerator Facility (CEBAF) to explore the fundamental nature of confined sates of quarks and gluons, including the nucleons that comprise the mass of the visible universe.

APPENDIX B – DOE OFFICE OF SCIENCE AND PEMP PROGRAM

The DOE Office of Science is responsible for conducting an annual appraisal of the DOE laboratories to “evaluate the scientific, technological, managerial, and operational performance of the contractors who manage and operate each of its ten national laboratories” (DOE, 2011). The information gained from the annual appraisal process are the basis for determining each annual incentive award including the related award fee and potential extension of the contract award term. The current appraisal process has been in place since 2006. It uses a common structure and scoring system across all ten of the laboratories. The process is structured around the following eight performance goals:

1. Mission Accomplishment (Delivery of S&T)
2. Design, Construction and Operation of Research Facilities
3. Science and Technology Project/Program Management
4. Leadership and Stewardship of the Laboratory
5. Integrated Environment, Safety and Health Protection
6. Business Systems
7. Facilities Maintenance and Infrastructure
8. Security and Energy Management

The appraisal process places particular emphasis on delivering the science and technology that is critical to the DOE mission, the operation of the laboratories in a safe and secure but cost effective way and recognizing the leadership, stewardship and value-added services that are to be provided by the contractor operating the laboratory (DOE, 2011). The process begins with the establishment of a small number of objectives within each goal identified above. The DOE Office of Science and local Site Offices can then further refine the objectives by establishing and identifying a smaller number of notable outcomes that highlight important areas in laboratory performance for the upcoming year. All of the goals, objectives and notable outcomes are incorporated at the beginning of the year in a Performance Evaluation and Management Plan (PEMP) that is incorporated as a part of the laboratory’s contract.

At the end of the conclusion of each fiscal year, input is solicited from key stakeholders. For example, goals 1-3 are evaluated by the various DOE groups that provide funding to the laboratories. Each DOE site office also provides input on goals 5-8, while the Office of Science Programs and the Site Offices provide input on the leadership goal (Goal 4). Grades are determined through a weighting process and the SC Science Programs and Site Offices consider the laboratory’s performance against the notable outcomes as defined in the PEMP as well as other sources of performance information that may become available to the DOE throughout the performance year. This may include special reports from organizations such as the Government Accountability Office (GAO)

or the DOE Office of the Inspector General (IG). The evaluation process includes end-of-year normalization meetings for all the Goals, during which rating organizations report their proposed scores/grades and work to ensure a consistent and fair scoring/grading approach across all ten laboratories.

The appraisal process uses a five point scoring system (0-4) with grades corresponding to numerical values for each of the eight performance goals and related objectives. A grade of B+ (3.4-3.1) is recognized as “Meets Expectations”. Performance below this level is not necessarily unsatisfactory but equates to areas where there are opportunities for improvement. An annual “Report Card” is created for each laboratory that includes the weighted computation of the scores of the individual performance objectives identified for each goal.

APPENDIX C

Semi-Structured Interview Questions

Matrix of Questions

Information Sharing - Contractor	1. Considering the current reporting of activities by the lab, how often do you communicate with the government outside of the required reporting?
	2. For what reasons do you communicate with the government outside of routine contract reporting requirements?
	3. Outside of the performance reporting cycle, how do you find out about changes in expectations or changes in laboratory goals, objectives and notable outcomes or other activities related to the government's oversight of the laboratory?
	4. In your role in providing oversight to the laboratory, do you feel that the current levels and amount of communication you have with the government is adequate? If not, why do you think this is so? How would you like it to be different? What do you think needs to change to improve communication?
	5. In general, do you believe that communicating with the government is important to achieving the performance goals, objectives and notable outcomes?
Trust-Contractor	6. Considering your role in managing the laboratory, what types of decisions do you believe that contractor management should be making? Should the contractor have full decision making authority over all budgetary aspects of the lab? Human Resources? Other areas? What types of decision making authority do you have as a contractor? In the areas where you do not have decision making authority, does the government seek your recommendations before making key decisions?
	7. What types of decisions do you believe should require government approval? Is this the case for your laboratory? Does the government require you to seek approval for decisions that you think should be delegated? Or, does the government delegate more decision making authority than you think it should?

	8. Are there current aspects of laboratory management and oversight that you believe should be delegated to laboratory management? Are these management and oversight responsibilities delegated to you as a contractor? What types of laboratory management and oversight responsibilities does the government retain control over?
	9. How is trust built in contract relationships? How do you think trust has been built or eroded in this relationship? How critical is it to the effectiveness of the relationship? Do you believe that DOE site personnel trust the laboratory management personnel to make the right decisions on daily operational issues? Short term plans? Long term plans?
Motivations - Contractor	10. What motivates you personally to meet the goals and objectives of the PEMP? Are these same motivational factors also important to the organization?
Evolution in relationship	11. What are some of the ways that you believe that your relationship with the DOE local site office has changed since the beginning of the contract period? Have there been changes in the types of decisions that laboratory personnel have been able to make? If so, how so? Have there been changes in the levels/amounts of communication since the beginning of the personnel? How about the frequency of meetings, both formal and informal?
	12. What are some of the ways would improve or change the relationship that you have with the DOE local site office?
	13. What do you think is critical and important to maintaining a good working relationship with the DOE local site office? Are there any impediments that you believe exists in your relationship with the DOE local site office?

Semi-Structured Interview Questions

Matrix of Questions

Information Sharing - Government	1. Considering the current reporting of activities by the lab, how often do you communicate with the laboratory outside of the required reporting? In what format do you communicate the most? Is this communication effective in obtaining information about all laboratory activities?
	2. For what reasons do you communicate with the contractor outside of routine contract reporting requirements? What are some examples of the types of communication?
	3. Outside of the performance reporting cycle, how do you find out about changes in expectations or changes in laboratory goals, objectives and notable outcomes or other activities related to the government's oversight of the laboratory?
	4. In your role in providing oversight to the laboratory, do you feel that the current levels and amount of communication you have with the contractor is adequate? If not, how would you like to see it change?
	5. In general, do you believe that communicating with the laboratory contractor is important to achieving the performance goals, objectives and notable outcomes?
	6. What do you perceive as the best way to monitor laboratory activities? Do you believe the required reporting in the contract is adequate for monitoring laboratory activities? Have you been able to monitor laboratory activities in the manner you feel is most appropriate? If not, why not?
Trust-Government	7. Considering your role in providing oversight to the contractor, what types of decisions do you believe that contractor management should be making? Should the contractor have full decision making authority over all budgetary aspects of the lab? Human Resources? Other areas? What types of decision making authority do you have as a monitor? In the areas where you do not have decision making authority, does the contractor seek your recommendations before making key decisions?

	8. In operating the laboratory, what types of decisions do you believe should require government approval? Is this the case for your laboratory? Are you required to provide approval for decisions that you think should be delegated to the contractor? Or, do you think that too much decision making authority is delegated to the contractor?
	9. In thinking about setting annual notable outcomes for the laboratory, do you seek input from the laboratory contractor personnel about the annual notable outcomes?
	10. Are there current aspects of laboratory management and oversight that you believe should be delegated to laboratory management?
	11. Do you believe that laboratory contractor personnel can be trusted to make the right decisions on daily operational issues? Short term plans? Long term plans?
Motivations - Government	12. What are some of the factors that you believe motivates the laboratory management personnel to meet the goals and objectives of the PEMP?
Evolution in relationship	13. What are some of the ways that you believe that your relationship with the laboratory contractor has changed since the beginning of the contract period? Have there been changes in the types of decisions that laboratory personnel have been able to make? If so, how so? Have there been changes in the levels/amounts of communication since the beginning of the current contract period? How about the frequency of meetings, both formal and informal?
	14. What are some of the ways that you think would improve or change the relationship that you have with the laboratory contractor personnel? How do you think trust has been built or eroded in this relationship?
	15. What do you think is critical and important to maintaining a good working relationship with the laboratory contractor personnel? Are there any impediments that you believe exists in your relationship with the laboratory contractor personnel?

APPENDIX D

Interview Protocol for DOE Site Offices

Thank you for agreeing to participate in the interview today. The focus of the interview is on understanding what factors affect and influence the contract relationship and ultimately contractor performance. I understand that the Department of Energy has a M&O contract with (name of federal laboratory). I would like to discuss with you how the contractual relationship is managed. The interview consists of thirteen questions and should take approximately one hour. Do you have any questions before we begin?

1) Could you please describe your current role with DOE?

[Probes]

- A. Which laboratories do you provide oversight to?
- B. Are others involved in providing oversight?
- C. If so, whom?
- D. Did you have a role in deciding to award the current contract to (insert laboratory name)?
- E. Is this the only contract in which you provide oversight?
- F. Was the process competitive? In your opinion, how important is the amount of competition in the contractual relationship?

2) Do you participate in the annual laboratory review process?

[Probes]

- A. Could you describe your role in the annual laboratory review process?
- B. Are there others involved in your evaluation of laboratories?
If so, whom? What role do they play?

3) Now let's discuss your communication and interaction with the laboratory management and leadership team, specifically looking at reporting of activities at the laboratory. Considering the current reporting of activities by the lab, how often do you

communicate with the laboratory outside of the required reporting? In what format do you communicate the most? Is this communication effective in obtaining information about all laboratory activities?

4) Recognizing that there are specific reporting requirements in the contract, for what reasons do you communicate with the contractor outside of routine contract reporting requirements? What are some examples of the types of communication?

5) Outside of the performance reporting cycle, how do you find out about changes in expectations or changes in laboratory goals, objectives and notable outcomes or other activities related to the government's oversight of the laboratory?

6) In your role in providing oversight to the laboratory, do you feel that the current levels and amount of communication you have with the contractor is adequate? If not, how would you like to see it change?

7) In general, do you believe that communicating with the laboratory contractor is important to achieving the performance goals, objectives and notable outcomes?

8) What types of monitoring do you currently engage in? What do you perceive as the best way to monitor laboratory activities? Do you believe the required reporting in the contract is adequate for monitoring laboratory activities? Have you been able to monitor laboratory activities in the manner you feel is most appropriate? If not, why not?

9) Now, let's discuss further your relationship with contractor management personnel. Considering your role in providing oversight to the contractor, what types of decisions do you believe that contractor management should be making? Should the contractor have full decision making authority over all budgetary aspects of the lab? Human Resources? Other areas? What types of decision making authority do you have as a monitor? In the areas where you do not have decision making authority, does the contractor seek your recommendations before making key decisions?

10) In operating the laboratory, what types of decisions do you believe should require government approval? Is this the case for your laboratory? Are you required to provide approval for decisions that you think should be delegated to the contractor? Or, do you think that too much decision making authority is delegated to the contractor?

11) In thinking about setting annual notable outcomes for the laboratory, do you seek input from the laboratory contractor personnel about the annual notable outcomes?

12) Are there current aspects of laboratory management and oversight that you believe should be delegated to laboratory management?

13) Do you believe that laboratory contractor personnel can be trusted to make the right decisions on daily operational issues? Develop and implement short term plans? Long term plans?

14) What are some of the factors that you believe motivates the laboratory management personnel to meet the goals and objectives of the PEMP?

What kinds of rewards does the DOE use in laboratory contract management?

[Probes]

A. In your opinion are these rewards adequate incentive to motivate performance of federal laboratory contractors?

What kinds of sanctions does the DOE use in laboratory contract management?

[Probes]

A. Under what conditions are these different sanctions used?

B. How are these applied?

15) What are some of the ways that you believe that your relationship with the laboratory contractor has changed since the beginning of the contract period? Have there been changes in the types of decisions that laboratory personnel have been able to make? If so, how so? Have there been changes in the levels/amounts of communication since the

beginning of the current contract period? How about the frequency of meetings, both formal and informal?

16) What are some of the ways that you think would improve or change the relationship that you have with the laboratory contractor personnel? How do you think trust has been built or eroded in this relationship?

17) What do you think is critical and important to maintaining a good working relationship with the laboratory contractor personnel? Are there any impediments that you believe exists in your relationship with the laboratory contractor personnel?

Name of Respondent _____

Job of Respondent _____

Highest Level of Education High School_____ Some College_____

Professional Degree (MD, JD, MPA, MBA, MSW) _____ Ph.D. _____

Gender of Respondent _____

Interview Instrument for Federal Laboratory Contractor Personnel

Thank you for agreeing to participate in the interview today. The focus of the interview is on understanding what factors affect and influence the contract relationship and the performance evaluation process with the federal laboratories. I would like to ask that you focus your attention on the specific M &O Contract in place for operation of (insert laboratory name) for this interview. I would like to discuss with you how the contract relationship is managed as a context for this interview. The interview consists of sixteen questions and should take approximately one hour. Do you have any questions before we begin?

- 1) Could you please describe your role in the management and oversight of the laboratory?
Probes:
 - (a) What is your title? Do you interact with the DOE site office?
 - (b) If so, with whom?
 - (c) Are there others that you communicate with?
- 2) Let's explore your communication with the government. Considering the current reporting of activities by the lab, how often do you communicate with the government outside of the required reporting?
- 3) For what reasons do you communicate with the government outside of routine contract reporting requirements?
- 4) Outside of the performance reporting cycle, how do you find out about changes in expectations or changes in laboratory goals, objectives and notable outcomes or other activities related to the government's oversight of the laboratory?

- 5) In your role in providing oversight to the laboratory, do you feel that the current levels and amount of communication you have with the government is adequate? If not, why do you think this is so? How would you like it to be different? What do you think needs to change to improve communication?
- 6) In general, do you believe that communicating with the government is important to achieving the performance goals, objectives and notable outcomes?
- 7) Considering your role in managing the laboratory, what types of decisions do you believe that contractor management should be making? Should the contractor have full decision making authority over all budgetary aspects of the lab? Human Resources? Other areas? What types of decision making authority do you have as a contractor? In the areas where you do not have decision making authority, does the government seek your recommendations before making key decisions?
- 8) What types of decisions do you believe should require government approval? Is this the case for your laboratory? Does the government require you to seek approval for decisions that you think should be delegated? Or, does the government delegate more decision making authority than you think it should?
- 9) Are there current aspects of laboratory management and oversight that you believe should be delegated to laboratory management? Are these management and oversight responsibilities delegated to you as a contractor? What types of laboratory management and oversight responsibilities does the government retain control over?

10) How is trust built in contract relationships? How do you think trust has been built or eroded in this relationship? How critical is it to the effectiveness of the relationship? Do you believe that DOE site personnel trust the laboratory management personnel to make the right decisions on daily operational issues? Short term plans? Long term plans?

11) What motivates you personally to meet the goals and objectives of the PEMP? Are these same motivational factors also important to the organization?

Probe: What kinds of rewards do you think exist, both implicitly and explicitly, in the PEMP process?

Are these rewards adequate to motivate you to meet the goals, objectives and notable outcomes?

Probe: What kinds of sanctions exist in the PEMP process? Do the potential sanctions motivate your performance? Have you seen sanctions utilized by the DOE?

12) What are some of the ways that you believe that your relationship with the DOE local site office has changed since the beginning of the contract period? Have there been changes in the types of decisions that laboratory personnel have been able to make? If so, how so? Have there been changes in the levels/amounts of communication since the beginning of the personnel? How about the frequency of meetings, both formal and informal?

13) What are some of the ways would improve or change the relationship that you have with the DOE local site office?

14) What do you think is critical and important to maintaining a good working relationship with the DOE local site office?

Are there any impediments that you believe exists in your relationship with the DOE local site office?

Name of Respondent _____

Laboratory _____

Job of Respondent _____

Highest Level of Education

Gender of Respondent _____

APPENDIX E

LABORATORY PROFILE INFORMATION

LAB NAME:

LAB ADDRESS:

YEAR FORMED:

WEBSITE:

NUMBER OF PERSONNEL (FTE):

FUNDING AND SUPPORT:

PARENT TYPE:

LOCATION DESCRIPTION: **URBAN** **SUBURBAN**
 RURAL

AREAS OF EXPERTISE OR UNIQUE CAPABILITIES:

LABORATORY LEADERSHIP

APPENDIX F – SURVEY CONSENT LETTER

SURVEY CONSENT LETTER

STUDY TITLE: AGENTS OR STEWARDS: EXPLORING THE RELATIONSHIP BETWEEN THE GOVERNMENT AND RESEARCH CONTRACTORS IN PERFORMANCE CONTRACTING

Dear Sirs:

My name is Claudia Haywood and I am a doctoral student in the public administration program at the University of Baltimore. I am conducting a research study to explore how the complex nature of the government-contractor relationship and how certain aspects of the relationship impact the DOE PEMP. This study is important to your laboratory, the DOE Office of Science and the field of public administration because it will provide a greater understanding of factors in the contracting relationship that influence the performance of government contractors. Additionally, it may help determine ways to improve the relationship between the DOE and contractors. Your opinions, attitudes and beliefs, as well as your knowledge and role in the current PEMP process, can provide valuable information and insights on this topic and your participation in the research study is greatly appreciated.

Over the next few weeks, you will be contacted for an interview to discuss your perceptions about the relationship you have with the DOE site office. This interview will consist of 15-20 open ended questions about your interaction between you and the site office. The interview will take about sixty minutes. The interview will be taped in order to facilitate recording your responses and will be transcribed for analysis. Your responses will be maintained by only your initials and title within the codebook used for data collection and analysis.

Participation in this study is completely voluntary. This research study is not connected in any way to your activities at the federal laboratory and the specific results of your participation will not be provided to the local site office or the DOE Office of Science. The purpose of this study is strictly academic. Please be assured that your responses will be kept anonymous and confidential, consistent with all federal and state regulations. Only myself, Ms. Claudia Haywood and Dr. Ed Gibson, Dissertation Committee Chair, will have access to the data which will be kept in a locked file. The records will be maintained for three years and then destroyed.

This study has been reviewed and approved by the University of Baltimore's Institutional Review Board (IRB). The IRB has determined that this study meets the ethical obligations required by federal law and under applicable University policies and that it poses minimal risk to study participants. If you have any questions or concerns about your rights as a study participant, please contact the University of Baltimore IRB office at (410) 837-6199.

The results of this study will be presented primarily in the aggregate; any specific quotations will not be attributed to you by name or affiliation with your laboratory. Any

information provided by you will be afforded the professional standards for protection of confidentiality and anonymity. If you would like a copy of the report once completed, please feel free to contact me at the email address below. By completing the interview, you are consenting to the terms of the research stated above. This letter serves as your copy of study related information and provides your consent to participate.

Again, thank you for your participation in this study. If you have any questions about this study, please feel free to contact me.

APPENDIX G – CODING TREE

1st Level Codes	2nd Level Codes	3rd Level Codes	4th Level Codes
A. Background on participant and their current role (Government)	Factual information	Laboratories they provide oversight to Others involved in providing oversight Role and duration at the lab and DOE Role in awarding current contract	
	Participant's description of role(s)	Understanding of oversight role Role in PEMP process	
Background on participant and their current role (Contractor)	Factual information	Information about lab Role, duration and experience	
	Participant's description of role(s)	Interactions with DOE site office Involvement in PEMP	
Communications (Government)	Methods and frequency	Formal Informal	Fosters collaboration, partnership and trust in relationship
	Purpose	Monitoring and keeping informed Providing feedback	Goal alignment and consensus
	Quality and effectiveness	Benefits of being co-located Difficulties and gaps Disclosure and transparency Perceived effectiveness	PEMP Process and intermediary with DOE HQ
Communications (Contractor)	Methods and frequency	Formal Informal	Build trust, avoid surprises

	Quality and effectiveness	Benefits of being co-located Difficulties and gaps Disclosure and transparency Perceived effectiveness	
Decision-making and delegation (Government)	Views on what should be delegated	Decisions that DOE is or should be involved in Decisions that should be delegated	Procedural oversight not transactional oversight;
	Trust in and involvement of contractor	Involvement in setting notable outcomes Trust in contractor decision-making	Onsite presence
Decision-making and delegation (Contractor)	Current decision making authorities and processes	Contractor responsibilities Involvement of contractor in setting notable outcomes Involvement of DOE in decision-making Role of other parties	Benefits of involving contractor High level of involvement Some involvement
	Views on current balance of authority	Appropriate balance of authority Inappropriate level of DOE involvement Other comments on balance of authority Whether contractor feels trusted by DOE to make decisions	
Performance and Motivation (Government)	Factors perceived to motivate contractor/ Intrinsic versus extrinsic	Contractual rewards and sanctions PEMP and published grades	How sanctions are used

		Reputation and esteem Stewardship of taxpayer funds	
	Other comments on PEMP system		
Performance and Motivation (Contractor)	Factors motivating contractor	Contractual rewards and sanctions PEMP and published grades Personal mission Relationship with DOE Reputation and esteem	
	Other comments on PEMP system	Criticisms of PEMP Other comments on PEMP Suggestions for improving PEMP Whether PEMP is fair	
Evolution of Relationship (Government)	Current relationship quality		
	Changes over time	Improved stewardship and accountability Other improvements	
	Factors affecting relationship quality	Communications and trust Contractual factors Individuals and stability Quality assurance methods Willingness to learn from experience	

	Role of Partnership Agreement	Positive views Mixed views Purpose of Agreement	
Evolution of Relationship (Contractor)	Current quality or nature of relationship		Co-location DOE headquarters Other parties
	How trust is built		
	Factors influencing relationship quality	Collaborative efforts and conflict management Contracts and agreements Individuals and stability Organizational factors	
	Importance of relationship		
(Government)	Critical success factors	Communications Consistency/stability Effective leadership Partnership approach Obtain diversity of experience	
	Advice to successor		
Factors seen to contribute to effective working relationship (Contractor)	Critical success factors	Communications Contractor performance Experience and competence Partnership and respect Trust and transparency	
	Advice to successor		

		<p>Be able to define and explain priorities</p> <p>Good partnership and communications</p> <p>Gain understanding of issues and complexities</p>	
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