Managing in the Face of Complexity: A Small Business Perspective on Living Up to and Delivering on Prime Contractor Expectations at Hanford - 10171

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ABSTRACT

This paper explores the experiences of a small business awarded the first Prime Contract of its kind in early 2005 at the U.S. Department of Energy (DOE) Hanford Site. The mission focused on conducting analyses of medium/highly radioactive samples at the 222-S complex within several constraints including utilizing facilities, instrumentation and equipment managed and maintained by another DOE Prime Contractor. Relationships had to be developed across a broad contractor community and major program requirements implemented in a number of areas, utilizing the overarching programs of other Prime contractors. What could not be fully appreciated upon contract award were the varied challenges associated with responding to expectations, both stated and unstated. Regardless, successful delivery on a majority of expectations as well as improved productivity and reduced costs were demonstrated. Lessons learned, including those believed critical to accomplishing the mission are provided. These lessons may transcend the "small" vs. "large" contractor in several areas, while also providing important feedback to any government agency wanting to find niche areas for small businesses to play a value-added contract role in the future.

INTRODUCTION

In January 2005, Advanced Technologies and Laboratories International, Inc. (ATL) - at the time a small, disadvantaged, woman-owned business - was awarded the first Prime Contract of its kind at the U.S. Department of Energy (DOE) Hanford Site in Washington State. The contract commenced in May 2005 with ATL providing technical services to receive, analyze, and report the results from inorganic, organic and radiochemistry analyses performed on highly radioactive and/or hazardous samples received from multiple sources at Hanford's 222-S Category 3 Nuclear facility. Working within the boundaries set by its contract, ATL has been responsible for conducting analyses at the 222-S complex while another Prime Contractor manages the complex as well as the instrumentation and equipment ATL uses. Concurrently, ATL implemented major programs (e.g., Nuclear Safety, Safeguards and Security) utilizing the programs of both the facility steward and that of another Prime Contractor responsible for security and emergency preparedness across the Hanford site.

The award itself represented a major milestone for ATL, propelling it into a new and more complex arena. What could not be fully appreciated then were the varied challenges this small business would face in responding to the expectations – both stated and unstated – that underpinned this first of its kind contract award. Regardless, to date ATL has managed to

successfully deliver on the vast majority of expectations and has done so at reduced cost while improving productivity.

ATL's experience provides insight into the complexities of the DOE contracting environment. This includes impacts to ATL's organizational identity, its organization, its culture, and how it achieved learning and growth. These insights lead to potentially broader lessons learned that are relevant to DOE as well as small and large Prime Contractors to DOE.

This exploration into ATL's experience is, from an organizational standpoint, unique. It is based upon our own unique lens or bias. We are simply conveying our experience so that other organizations operating within a similar environment might derive benefit.

UNDERSTANDING OUR ENVIRONMENT

It is important to start by first describing interfaces as all are stakeholders [1] and thus co-creators of the environment in which all exist. (pp. 349-350) These interfaces also form the basis for relationship development. In the solicitation process, proposing companies must, to a large degree, accept the information provided in a solicitation at face value. Hence, interfaces appear straightforward due to each contractor's stated role (e.g., Direct Funded Service provider, Centralized Service provider, Direct Billed Service provider). This notion is predicated on the underlying principle that all players will easily fall into appropriate interactions effectively at the onset. Most large government contractors have previous experience with these types of contracts and, in many cases, with the Site's other large contractors. However, a new player, such as a new small business entering the playing field may not have the full depth and breadth of understanding at the onset, thus representing a potential threat to an organization's identity as well as image [2,3]. ATL illustrates this point while considering the unique nature of this first-of-its-kind small business award, including the required use of other Prime Contractor programs and the "Facility Stewardship" [1]role,.

Key interfaces required under ATL's contract with DOE are presented in Figure 1 as an aid to the reader because the actual number of Prime Contractor interfaces and DOE affiliations involved is a bit complex[2]. As can be observed in Figure 1 below, ATL is one of nine Hanford Site Prime Contractors (hereinafter referred to as Prime or Primes) out of a larger number of designated Hanford Site Contractors serving in various capacities[3]. In cases where a Prime is a significant service provider to ATL as well as a customer of ATL services, the Prime is shown twice (i.e., each scope is separately represented). Furthermore, three DOE Field Offices have contract oversight responsibilities for one or more of the contractors as noted in Figure 1. These stakeholders are then briefly described below.

Sharing the level of detail above is important since a new Prime Contractor can't hope to accomplish its mission if it doesn't understand the playing field and all the players. It is, quite

[1] The facility stewardship role was a title assigned by ATL to the contractor sharing and operating the facility, to limit impacts from changing contractor roles and designations.
[2] In fact, making sense out of the varied information available via DOE websites can be confounding due to multiple DOE office websites and transitions that have occurred across contractors over the last year and a half.
[3] Based upon publicly available information electronically available at http://www.hanford.gov/?page=85&parent=78, accessed on November 10, 2009.

simply, a necessary starting point for relationship development. Yet, as will be seen in the following discussion, the players can change and their interest in, and influence upon an organization can fluctuate. The ultimate challenge for any Prime Contractor lies in effectively managing and building meaningful stakeholder relationships while also building its own organizational identity and image within the boundaries of its contract with DOE.

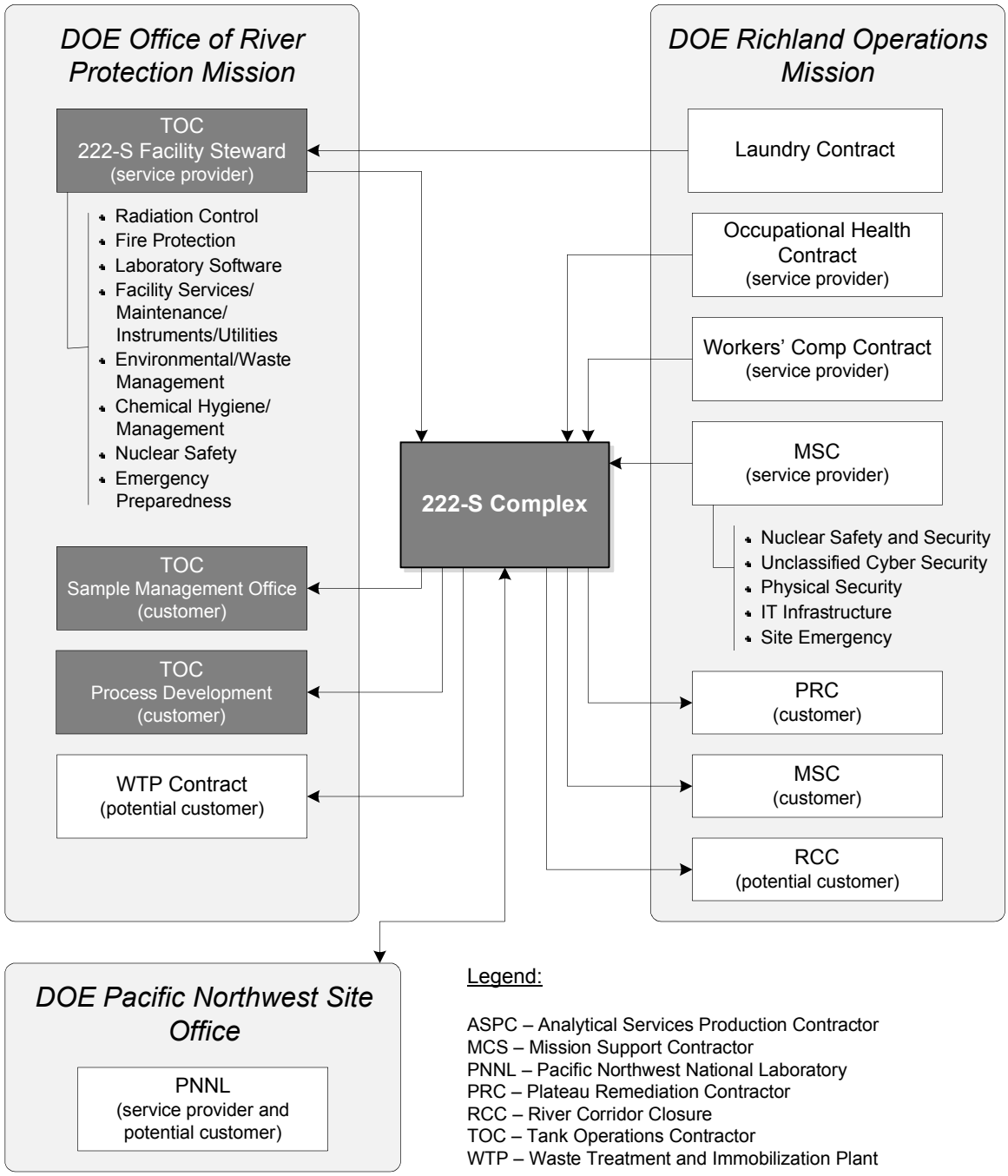

Figure 1. Description of inter-contractor interfaces.

STAKEHOLDERS

Stakeholders influence the notion of place and space an organization holds [1]. (pp. 249-250) For the sake of this discussion, the concept of "stakeholder" is based on the work of Mitchell et. al [4] and can be viewed across the three qualitative attributes of power, legitimacy, and urgency. As summarized by Rodgers and Gago [1], *latent* stakeholders will possess one of the three following traits while a *definitive* stakeholder will possess all three:

1. the extent to which potential stakeholders contribute valued resources to the firm.
2. the extent to which they put these resources at risk and would experience costs if the firm fails or their relationship with the firm terminates; and
3. the power they have in or over an organization. (p. 350)

From the description above, it can be assumed that definitive stakeholders will hold more influence over an organization than latent ones. Jawahar and McLaughlin argue that stakeholder importance relates to organizational needs at any given point in time [5].

> Stakeholder strategies of defense and reaction will be used to deal with other stakeholders, depending on the extent to which the organization relies on those stakeholders. (p. 410)

Thus an organization must adapt its response to meet multiple stakeholder needs/demands, which will vary in strength at any given time.

Within this context, all contractors presented in Figure 1 are stakeholders for ATL. All meet at least one of Rodgers and Gago's [1] criteria above. ATL's experience confirms that, as research suggests, some indeed have more influence on ATL's mission than others.

Stakeholder Influence

ATL's relationships with the Site Occupational Health service provider and the Site Workers' Compensation service provider, is straightforward due to clarity of roles and transaction processes. Both clearly meet criteria 1 above; they contribute valued resources to the firm through the services provided. Consistent with the literature, a memoranda of agreement was sufficient for relatively smooth and transparent engagement at the onset. An issue subsequently developed that caused us to question the effectiveness of our worker case management. In this case, face-to-face discussions were initiated. Employee injury and illness data and information were transferred across these contractors regularly. However, after talking through our collective processes and supporting goals and objectives we realized that there were gaps in communication processes across Primes in several areas. As a result, we were able to make improvements; resulting in significantly improved worker case management. This assured the worker received the attention and care needed while ATL's and DOE's needs were best served. DOE Field Office interactions were likewise seamless in these cases.

Relationships with the River Corridor Closure contractor (RCC) and the Waste Treatment Plant (WTP) contractor have also been relatively straightforward but for different reasons. Both Primes are potential customers of ATL's services. RCC has held its current contract with DOE-RL since the middle of fiscal year 2005. To date, the need for ATL's analytical services has varied from little to none (most of their analytical needs do not involve highly radioactive

samples). The RCC's influence would increase in the event they required 222-S analytical support, thereby affecting ATL's resource planning. Likewise, ATL would then meet criteria 1 and 2 for RCC and, failure on our part would put them at risk of meeting critical deadlines. WTP has held its contract with DOE-ORP since late 2000. No analytical services have been directly negotiated to date. The WTP contract covers Conceptual Design through facility completion and preliminary operation prior to transition to the future WTP operations contractor. Thus, WTP is focused on those activities necessary to support facility completion. Once WTP completion is closer to becoming a reality, the need for 222-S support changes (analytical support, training to operate within WTP, etc.). Similar to the RCC, stakeholder influence would then increase as our objectives became intertwined.

A more unique example of stakeholder influence is illustrated by ATL's relationship with PNNL. The DOE Pacific Northwest Site Office (PNSO), on behalf of the DOE Office of Science, provides oversight to and management of the prime contract for the PNNL (although a Prime in its own right, PNNL is considered a Site Contractor by DOE-ORP and DOE-RL as opposed to a Hanford Prime Contractor). PNNL provides dosimetry services to the Hanford Site within this context. PNNL is a potential customer of ATL's analytical services. Additionally, PNNL has been a strategic partner (as subcontractor) on ATL's contract with DOE-ORP. This might lead the reader to assume that PNNL meets the definitive stakeholder criteria. In fact, this is not the case. As a provider of dosimetry services, PNNL meets criteria 1. As a potential customer of ATL's services, we would meet criteria 1 and 2 only when required. As a strategic partner, interface is relatively straightforward. PNNL's mission is R&D and strategic laboratory/institutional management, while ATL's mission is managing analytical workscope with a production mindset. ATL and PNNL engage closely when there is a goodness of fit; otherwise, both entities operate autonomously. Both the PNSO and ORP Field offices provide oversight of transactions to assure this balance is maintained.

ATL's relationship with the Plateau Remediation Contract contractor (PRC) increases in terms of complexity and influence. This is interesting considering the PRC is exclusively a potential customer of analytical services at 222-S (their needs can vary over time). The PRC assumed its contract with DOE-RL starting late in fiscal year 2008. This Contract included transitioned scope from that previously managed the Project Hanford Management Contractor. To date, there have been a variety of analytical needs provided to PRC customers by ATL, a number of these involve complex sample handling and processing due to radiological challenges associated with their samples. Assuring these needs are well understood and executed is critical. Additionally, obtaining reliable fiscal year schedules from PRC is problematic due to the complexity of their workscope. Finally, the Tank Operations Contractor (TOC) - highlighted later in this discussion - being a major overall customer of ATL's services complicates the interface due to potential competing priorities between the TOC and the PRC. In many respects, the PRC/ATL interface fits all three criteria associated with a definitive stakeholder. However, these criteria only come into alignment *when the analytical workscope dictates*; goals and objectives become intertwined and the influence across both Primes increases. In between these events, efforts and interfaces drop off dramatically. The cyclic nature of interface, based on demands and although consistent with the stakeholder literature, represents a threat to ATL's image if we fail to deliver and/or, if our costs exceed expectations. Our PRC interface is further complicated by DOE-RL and DOE-ORP oversight activities. A memorandum of agreement to outline the roles and expectations was necessary in this case but was not sufficient. Likewise, analytical work planning and execution

agreements were necessary but not sufficient. By the end of FY2009, both contractors had agreed to meet quarterly to review schedule evolutions, scope changes and budget impacts. These face-to-face engagements have resulted in better overall planning and a clearer understanding of all stakeholder needs and constraints. It should be noted that the TOC helped facilitate identifying the appropriate points of contact and participates in the discussions. This is a dramatic change from past planning efforts and overall planning has improved as a result. Thus stakeholder influence can serve positive outcomes.

Stakeholder influence continues to increase incrementally when ATL's relationship with the Mission Support Contract contractor (MSC) is considered. The MSC assumed its contract with DOE-RL starting in late fiscal year 2009. This Contract transitioned certain scope from that previously managed under contract by the Project Hanford Management Contractor. MSC is primarily a service provider to ATL although they are also a customer of our analytical services in terms of analytical standards and reagents, backup analytical capacity to their Waste Sampling Characterization Facility (WSCF), and overall site emergency management support. It should be noted that MSC provides site-wide infrastructure services, such as utilities and information technology. These services are coordinated through the TOC at 222-S and are not reflected in Figure 1 as they would only further complicate this discussion. The MSC's influence as a stakeholder is moderately low in terms of their role as a utility service provider through our TOC Facility Steward interface (e.g., the largest transaction costs are felt by TOC as a result). As a service provider of information technology infrastructure support to ATL directly, they meet criteria 1 and 2. In this vein, ATL has consistently struggled with what we can and cannot do as a result of their infrastructure requirements. In terms of safeguards and security (SAS) program coordination and oversight of ATL by MSC, in conjunction with the TOC, the definitive stakeholder criteria of 1-3 are met. This level of influence exerts a great deal of control over ATL's approach to safeguards and security (SAS). In terms of MSC's need for ATL site emergency analytical services support (highly unpredicatable) their stakeholder influence is low until a Site emergency occurs. Finally, ATL backup/overlow analytical support to the MSC's WSCF analytical facility exerts low influence, as it is unpredictable at best. A memorandum of agreement was put in place at the onset and combined with other work authorization agreements (e.g., Statement of Work, Analytical Work Instruction). It was later determined that this vehicle was not effective in areas such as SAS where multiple and overlapping roles existed across three Primes. In this case, an Administrative Interface Agreement (AIA) was developed. Over time all agreements regardless of detail, have been supplemented by direct engagement to assure all stakeholder needs could be met. Engagement has included the DOE-RL Field Office that has oversight responsibility for SAS and emergency site management.

Increased Stakeholder Influence

At the extreme end of complexity and stakeholder influence lies the TOC. The TOC assumed its contract with DOE-ORP with transition starting in late fiscal year 2008. This Contract transitioned from the Tank Farm Contract (TFC). The TOC is a service provider to ATL, serving as the 222-S Facility Steward with responsibility for maintenance and upgrade of the facility as well as management, maintenance and upgrade of all instrumentation ATL uses to execute its analytical mission. The 222-S Facility Steward also has an analytical process development group at 222-S. This group is focused in applied process R&D and ATL frequently provides analytical support to their efforts. Both organizational units share space and instrumentation in several

areas. At a higher organizational level the TOC is also a primary customer of ATL's analytical services at 222-S. Analytical support to broader TOC program needs is facilitated by a Sample Management Organization (SMO) operating at the 222-S complex.

The TOC contract is in excess of $7B over five years and includes two option periods (three and two year option periods). The TOC contract is divided into seven Contract Line Items (CLIN). The most notable ones in terms of ATL are: 1) Base Operations, that include 222-S analytical laboratory support; 2) Single-Shell Tank retrieval; 3) Waste Treatment and Immobilization Plant (WTP) Support; 4) Supplemental Treatment; 5) Early Feed and Operation of the WTP Low Activity Waste (LAW Facility); and most recently, 7) American Recovery Act and Reinvestment Act (ARRA) Workscope.

Noteworthy from an ATL perspective is the proportion of TOC workscope devoted to 222-S Facility Stewardship responsibilities/infrastructure management (a part of Base Operations). This workscope directly supports ATL accomplishing its mission. This scope is approximately 3% (in terms of overall TOC contract dollars excluding ARRA funding). Base Operations, impacting both the 222-S as well as the broader TOC mission, represents approximately 23% of TOC's budget (again, not accounting for ARRA funding). Figure 2 presents these three stakeholder influences relative to ATL. Note that the darker shaded circles describe the composition at 222-S.

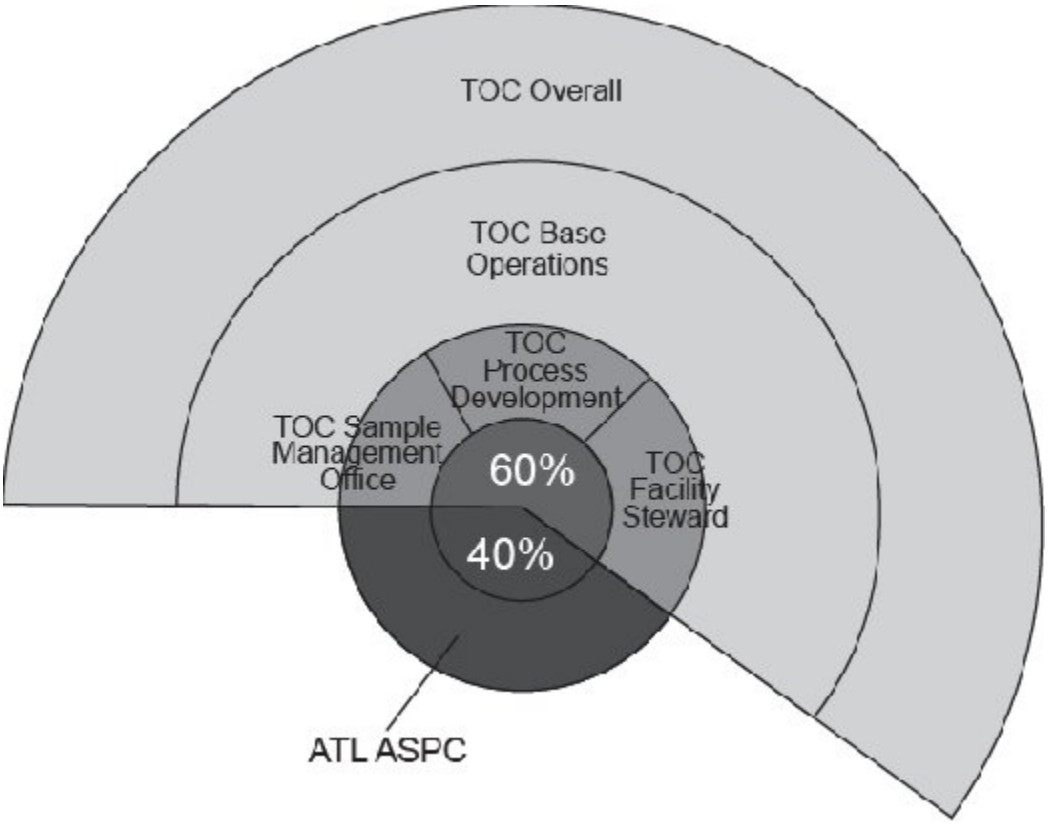

Figure 2. Differing facets of TOC contract related to ATL

Stakeholder influence upon ATL is considered high; the TOC meets all three criteria denoting a *definitive* stakeholder. Interestingly, TOC stakeholder influences are considered *definitive* from

both service provider and customer perspectives. However, ATL can be viewed as a *latent* stakeholder to the TOC. Both ATL and the TOC share valuable resources (criteria 1), both stand to lose a great deal if these resources fail (criteria 2) but, TOC can exert greater power (criteria 3) over ATL due to its size and role. Several illustrations of stakeholder influence follow.

Sharing valuable resources can result in overall benefit across contractors. Both ATL and the TOC have a diverse workforce. This workforce is comprised of exempt, non-exempt, and bargaining unit staff. Every effort has been made between ATL and the TOC to manage resources across both organizations to maximize facility coverage, while reducing costs. One example is 24/7 shift work surveillance. ATL provides facility operations surveillance support - typically a Facility Steward responsibility - recognizing that a portion of staff time can also be devoted to maintaining radioanalytical counting room instruments in a "ready to serve" capacity. This enables ATL to efficiently and effectively support Site-wide emergencies (e.g., recent Hanford Site fire). Thus far, both contractors have benefited from this arrangement. But sharing resources can also negatively impact performance.

One illustration of negative impacts involves procedure administration. At the onset of ATL's contract, procedure administration support by the TFC was negotiated. However, during the period preceding Facility Steward contractor transition from the TFC to the TOC, ATL was notified that this procedure administration support would no longer be provided. ATL was left with approximately six months to take on this significant scope and assure negative risks were mitigated. In parallel, the TFC requested that ATL and the facility steward separate several jointly administered procedures into contractor specific ones. Although ATL requested several times that this path forward be re-evaluated, there was a general lack of responsiveness to these requests. In the end, ATL identified, hired and arranged training for our designated resource. Over this time period, the procedure backlog grew; ATL is still working off the backlog today.

The examples above illustrate positive and negative impacts associated with stakeholder criteria 1 and 2 while alluding to criterion 3 - stakeholder power. An example of the power one stakeholder can have over another is perhaps better illustrated by the following example.

Increased Stakeholder Power

In August of 2007, all analytical work was curtailed at 222-S due to a spill that occurred during Tank Farm operations. The TFC issued a work pause on all work involving the movement of radiological liquids. The pause was not related to the conduct of ATL's analytical operations specifically and was outside operations at the 222-S laboratory more generally. DOE- ORP Contracting officials, as well as other ORP points of contact, were contacted to apprise them of the situation and to inquire into its applicability to ATL's operations. ATL attempted to understand why - as a Prime with a fully implemented Integrated Safety Management System and Worker Safety and Health Program - the work pause was appropriate. It was an event caused by another contractor, operating in an entirely different work setting, and distinctly outside of a laboratory environment. DOE-ORP concluded that pausing work was appropriate due to sharing the 222-S facility with the Facility Steward, relying on the Facility Steward's equipment, and using impacted Facility Steward programs and supporting resources for implementation (i.e., Radiation Protection and Waste Management program/system support). Even while perplexed and deeply concerned by this event and its repercussions, ATL worked proactively with the Facility Steward to support the timely resumption of critical tasks. This included participating on

task-by-task detailed reviews of ATL's routine workscope. Within a week, limited analytical ATL operations resumed, focused on critical customer and laboratory priorities. As an example, ATL efforts directly contributed to a successful Tank Farm Evaporator campaign as well as making a critical shipment to support Waste Treatment and Immobilization Plant (WTP). Within two weeks, approximately 60% of analytical operations were resumed. The work release effort continued with final closure occurring in early FY2008. If both organizations didn't collaborate, the event above could have had far more serious consequences.

Although an example of strong collaboration and it was also confounding, thus representing a defining moment for ATL. Considering the many controls implemented to identify, mitigate, and manage ATL risks within the 222-S complex, restart options should not have been limited to the task-by-task detailed reviews that were ultimately conducted. The very nature of this work pause put stress on staff and processes that cannot be overstated. In this short time frame some key perceptions were reinforced. First, being intertwined with other contractors in terms of facility and program/system support (Radiation Protection, Waste Management, Safeguards and Security, etc.) means ATL will always be impacted by them. Essentially, ATL is such a small contractor that large Prime Contractors don't necessarily understand or even discern the impact their decisions have upon us. This event reflected an evident and unequivocal example of one stakeholder's power and influence over another. The TFC clearly exerted greater power over ATL due to it's sheer size and the attention it received from DOE (criteria 3). These influences served to define ATL's place and space within a very narrow context.

Yet, there are cases where a stakeholder having less power can significantly influence action by another who normally holds more. An example occurred late in FY2009.

Instrument failures became increasingly problematic entering into the end of FY2009. So much so that at one point our heaviest workhorses – our two Inductively Coupled Plasma – Atomic Emission Spectrometer's (ICP-AES) – were both out of service. During the same time period we also experienced problems with one of only two ICP-Mass Spectrometry (ICP-MS) systems. The time needed to get these systems repaired was complicated by their age and the logistics associated with repairing them in a radiological contamination area. Repairs were complicated by the variety and number of resources required. For example, ICP repair can require an ATL Chemist and Chemical Technologist as well as a TOC instrument technician and at least one of their Health Physics Technicians, not to mention the instrument manufacturer's vendor support. As a result, the work needed to be carefully planned and coordinated. Depending on the problem, it was a week or sometimes more to effect actual repair. If we overlay the competition for resources due to facility maintenance issues as well as keeping other analytical work moving through the lab, the challenges at times seemed insurmountable. More and more customer deadlines started slipping until several critical customer programs were in danger of not meeting their deadlines. In the end, it was the pressure from programs that helped focus the priority to getting the instruments back up and running.

DOE-ORP, by its very role, is a definitive stakeholder. They manage the contract and the funds, and can terminate the contract for just cause at any time. They also manage the WTP and TOC contracts – both significantly larger in scope. At times, ATL is almost lost in this complex large/small contractor mix. Examples include several joint DOE-ORP/Prime Contractor initiatives where all Primes were included except ATL. Similarly, ATL has periodically been

excluded from joint DOE-ORP/Prime Contractor safety performance reviews. Although frustrating at times, it is reassuring to know that DOE isn't losing sleep at night as a result of our performance. Regardless, the experiences above made it even more important that we engage in a meaningful way with our contracting officials. Over time, our engagement has moved from the more formal, correspondence-based communications to a blend with less formal, in-person performance/progress reviews and associated discussions.

ORGANIZATIONAL IDENTITY/IMAGE

A key challenge that many government contractors face, but that is rarely addressed, is establishing its organizational identity and organizational – or corporate – image within the bounds of its government contract. Organizational identity refers to "member's experiences of and beliefs about the organization as a whole" whereas Organizational or corporate image refers to "impressions of the organization formed by others" [2]. (p. 257) Of interest is that the bidding organization has an identity and image that is separate and distinct from the contract it is bidding on. Thus, upon contract award, the contractor faces the challenge of creating a new organizational identity and image; hopefully one that harmonizes what made the contractor favorable in the eyes of the contracting agency in the first place, with that of the new organization and overall environment it is entering. Otherwise, the organization faces potential "identity threats" [3]. (p.433) This dilemma appears to mimic literature associated with transformational change in organizations [6]. Within the government-contracting arena, solicitations favor rapid contractor transitions – most requiring transitions of 90 days or less, regardless of contract size and dollar value. Yet, contract assumption is a disruptive event while well intended. Organizational transformation literature suggests that transformation can take longer, most notably because it is influenced by culture, which is difficult to change.

Organizational culture is key to organizational effectiveness [7]. Schein [7] argues that "organization learning, development, and planned change cannot be understood without considering culture as a primary source of resistance to change". (p. xiv) So, how does a corporate entity infuse change in a new contracting environment?

ATL is a relatively young company, established in 1989. Remaining small in size to this day, ATL has a strong entrepreneurial spirit that infuses all aspects of its corporate culture. The combination of ATL's small size and entrepreneurial spirit results in a strong productivity mindset. ATL's leadership is also one that constantly strives to infuse a philosophy of thinking "out of the box." Every effort is made to hire multifaceted individuals who are then counted on to multitask and form, dissolve and reform teams to drive efficiency, effectiveness and value into everything that ATL does. It is only natural that ATL would assume that this same culture could be infused into its new role at 222-S and a harmonized organizational identity would result.

To deal with changes to organizational identity, an organization can adopt one of three approaches in response: 1) remove the current workforce; 2) support/nuture incremental shifts in the existing workforce; or 3) radically transform the existing workforce [8]. (p. 663) While the third option – radical transformation – might have been desirable, it was virtually impossible due to a couple of very pragmatic reasons. First, ATL had to assure smooth transition of a workforce that was being split between two contractors. This was hard enough on the incumbent staff. At the same time, ATL was learning that its original assumptions about who had what

responsibilities for a variety of compliance programs (e.g., ISMS, Nuclear Safety, Safeguards and Security) were not consistent with the Facility Steward's assumptions or DOE's. A great deal of time and effort needed to be expended getting the right programs in place, and clarifying roles and responsibilities across the two Primes. This was hardly a time to consider a radical transformation. So, only two options remained. Although option 1 above was never considered preferable, DOE-ORP's contract precluded it regardless. Thus, option 2 made the most sense and indeed, there are very valid reasons for maintaining the incumbent workforce.

Maintaining a requisite number of staff that transition from one contract to the next assures that critical information needed to make knowledgeable decisions is not lost because it is held in minds of staff moving off the contract. As at least one author argues, knowledge is created and held in individuals [9], no corporation can actually own it. It also helps in the relationship-building phase as contractors utilize existing staff relationships with other Primes as building blocks under new contracts. In fact, maintaining incumbents has been critical to so many facets of accomplishing the work. The 222-S workforce, specifically those in the lab, have long-standing relationships that pre-date the current contracts and are a large part of both Primes' continued success. Roles and responsibilities are and have been reasonably consistent. For example, ATL attained VPP Star status in fiscal year 2008. A noteworthy comment from the DOE VPP assessment team was how seamless the staff at 222-S were. Whether interacting with ATL or the Facility Steward, the assessment team got consistent feedback. The assessment team observed two Primes working together and looking out for each other. This level of cohesion took time to build and was aided by new staff ATL brought on under the contract.

ATL consciously brought in new employees encompassing a wide range of experiences including R&D and commercial lab experience, process and facility acumen, and an appreciation of the importance in managing relationships. These staff enhanced ATL's ability to build and mature business and compliance programs. They also proved a valued resource in coordinating cross-cutting interface issues and have helped strengthen other contractor and DOE interfaces. At the same time, the incumbent leadership assured mission continuity and assisted in driving incremental shifts in the culture. By late fiscal year 2007, ATL's leadership team was comprised of both new and incumbent staff. This team meets regularly to discuss and act on critical issues and to also evaluate progress toward 222-S and ATL corporate goals and objectives. Regular meetings are also held with staff having responsibility for our business and compliance programs. These meetings focus on understanding the progress and overall maturity of our programs in relation to goals and objectives. Finally, all-employee meetings are conducted periodically during the year to share progress and performance against expectations. These are all forums designed to share performance information in a manner that promotes collective organizational knowledge. The literature suggests that sense-making and sense-giving processes are critical to understanding and adapting to ones place in the environment [3]. ATL's experience resonates with the literature.

LESSONS LEARNED

From a small business perspective, ATL proposed on a solicitation that appeared to be carefully refined and limited in terms of the scope to accomplish; a scope that appeared to be in harmony with past experience. It was felt that liability was limited due to implementing other Prime Contractor programs, and worth the risk. With its inherent lean and mean culture, ATL also

hoped to infuse a new and different way of operating in terms of efficiency/productivity gains while minimizing bureaucracy. It was also assumed that ATL could work with any contractor to the DOE on equal footing because of its Prime Contractor designation. As a small business, ATL believed that such a Prime Contract with DOE would form the best opportunity to shine. This formed the starting context for ATL. Now, at the end of our five-year contract period, we believe that our assumptions were largely valid. Over the contract period however, we weren't always so sure. In retrospect, there were defining moments that highlighted several barriers to our success that had to first be recognized, and then effectively managed. Actions taken during such defining moments provide lessons learned for the future.

Every effort by DOE was obviously made to limit the scope and complexity of a new small business' entry into the Hanford government-contracting field. Recent solicitations have recognized that more integration efforts are needed. In fact, these new contractor transitions have resulted in greater outreach to small players such as ATL. Regardless, more progress can be made.

Discernable from the stakeholder discussion is the importance of shared goals/objectives. Shared goals/objectives serve to unite different players as they come to better understand roles and responsibilities that support everyone's success. The more each contractor's mission overlaps with that of other contractors, the more compelling the need to integrate and interface will be upfront. DOE can play an important role in either driving integration amongst or creating barriers between Primes. Additionally, linking incentives across Primes, as makes sense, is one way to support enhanced integration and effectiveness.

Integrated planning is critical. The workscope at Hanford is complex. The analytical support ATL provides is but a small piece of this complex workscope and is often forgotten about until it is needed. But ATL can't effectively plan nor can it be responsive if we don't have a broader understanding of the various Primes' needs. Integrated planning has improved tremendously over our tenure and momentum can't be lost.

Site Contractors must be concerned with the consequences of their actions within their organization. Yet it is equally important to recognize the consequences to those beyond their organization. The work pause example provided is a good illustration. Similarly, while ATL suffered numerous set-backs across its tenure, the one involving instrument downtime and facility maintenance/upgrade activities should have been easier to recognize. Yet, concerted and focused facility support wasn't galvanized until the larger TOC organization was impacted by our inability to perform. This happened in spite of numerous communications by ATL that indicated a pending train wreck. Upon reflection, perhaps we didn't adequately use the combination of information and conversation to create the understanding needed to act proactively. We were talking but the message wasn't getting through.

Relationships are most effective when issues are managed at the right level of each organization for resolution. It is most difficult when we (ATL/222-S) are impacted by TOC and Base Operations level initiatives (procedure simplification, starting times, central Rad Con, event response, etc.) that don't take ATL's unique needs into consideration. This places us at odds with 222-S level of the TOC organization and places the 222-S organization at odds with the overarching TOC organizational level.

Culture is a critical consideration. What culture does DOE hope to create through a new contract? More thought should be given to answering this question. Culture is not something that can be immediately changed and contractors and DOE alike need to recognize this point and plan accordingly.

Relationship development is critical to success under any contract. Even when a stakeholder provided very clear and discrete services, working agreements were necessary but not sufficient. Every time we engaged directly with a stakeholder, we made progress. At times, progress was simply gaining new insight into our collective needs thereby allowing both Primes to move forward more effectively. Other times, improvement in critical processes resulted. And yet other times, we were able to galvanize to meet a critical customer need. Relationship is about discussion; it is about dialogue. Both offer the opportunity for learning and adapting within the environment.

DOE's desire to implement more small business opportunities has been realized. ATL has indeed demonstrated that a small business can be a successful Prime in Hanford's complex contracting environment. The philosophy underlying DOE's original decision to have a large contractor manage and maintain 222-S was most likely driven by a desire to mitigate risks to as low as reasonably possible. There was undoubtedly some concern regarding whether a small business could deal with an aging nuclear facility and similarly old instrumentation/equipment in addition to managing analytical work. This paper highlighted that a contract of this type can be successful. Yet, it has been challenging. Although hindsight is always 20/20, we propose that a different contracting arrangement at the 222-S complex could reduce barriers to success. Either combining responsibilities under one contractor, or possibly rethinking the two-contractor model would be worth considering. Managing 222-S as a standalone operation could assure mission focus and balance across all analytical customer needs. The ultimate consequences are of course, unknown.

CONCLUSIONS

Organizations at the Hanford Site are culturally influenced by all that preceded them. As the mission at Hanford has evolved, so too has the government contracting environment. If culture is indeed a result of "complex group learning" processes [7] then it is understandable that a new small prime would encounter additional, unanticipated complexity. (p.5) Yet ATL, in large measure, successfully navigated this complexity.

In working with each Contractor, ATL used existing tools to promote the effective transfer of information regarding roles and responsibilities. When shared roles were relatively discrete, then tools such as an MOA sufficed. Regardless, we got better results when we also actively engaged with the Prime. As the complexity of interaction warranted, ATL and appropriate contractor interfaces built more robust agreements to execute our collective responsibilities. When conflict occurred, it was direct engagement that led to ultimate resolution.

As ATL's five-year contract with the DOE draws to a close, there is much to be proud of. Our performance under the contract demonstrated continuous improvement at lower cost to the government. Our DOE field offices as well as other DOE contractors across the Hanford Site recognize us and understand our role in the clean-up mission at Hanford. Equally important, we

have made inroads in accomplishing both ATL's and the TOC's missions at 222-S. It has been complex in every sense, but upon reflection, this complexity makes sense. The lessons learned will help us better navigate complexity in the future.

References

1. Rodgers, W., & Gago, S. (2004). Stakeholder Influence on corporate strategies over time. *Journal of Business Ethics, 52*, 349-363.
2. Hatch, M. J. (1997). *Organization Theory: Modern, Symbolic, and Postmodern Perspectives* (1st ed.). Oxford: Oxford University Press.
3. Ravasi, D., & Schultz, M. (2006). Responding to Organizational identity threats: Exploring the role of organizational culture. Academy of Management Journal, 49(3), 433-458.
4. Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a Theory of Stakeholder Identification and Salience: Defining the principle of who and what really counts. Academy of Management Review, 22(4), 853-886.
5. Jawahar, I. M., & McLaughlin, G. L. (2001). Toward a Descriptive Stakeholder Theory: An organizational life cycle approach. Academy of Management Review, 26(3), 397-414.
6. Cummings, T. G., & Worley, C. G. (1997). Organization Development and Change (6th ed.): West Publishing Company.
7. Schein, E. H. (1997). Organization Culture and Leadership (2nd ed.). San Francisco, CA: Jossey-Bass.
8. Fiol, C. M. (2002). Capitalizing on paradox: The role of language in transforming organizational identities. Organization Science, 13(6), 653-666.
9. Stacey, R. D. (2001). Complex Responsive Processes in Organizations: learning and knowledge creation. New York: Routledge.