Strategy Research Project

Improving Contingency Construction Delivery

by

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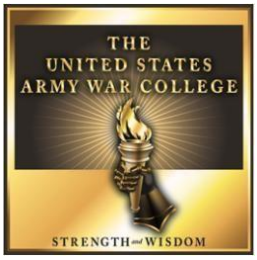

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Abstract

Contracting for contingency construction requirements is a necessity given the current force structure. The Department of Defense must have the ability to project forces into distant environments if the United States is to maintain its current strategic advantage as a global power. The enduring characteristic of contingency construction is that it is inherently time-sensitive and sometimes difficult to forecast early on during the planning and budget cycle. Currently, provision of engineering and construction services is at the mercy of Continental United States-based and complex United States codes and Service regulations that severely limit flexibility and responsiveness. This research project recommends six changes to improve the system. The recommendations include changes to statutory authorities, funding mechanisms, regulations, planning, Information Technology systems, and most importantly, lesson sharing in order to improve the overall delivery. These changes would provide Theater or Joint Task Force Engineers the tools they need to better support Commanders.

Improving Contingency Construction Delivery

On August 20, 2017, the Government of the Islamic Republic of Afghanistan officially expanded the Afghan National Army Special Operations Command (ANASOC) from a division to a corps level unit with the goal of eventually doubling the force.[1] The purpose behind growing the size of this force was that they were extremely effective at conducting offensive operations on the battlefield and helping break the lengthy stalemate between the coalition forces and the Taliban.[2] This growth was scheduled along a very ambitious timeline, but government officials acknowledged that it is likely to take longer, perhaps after 2020, to accomplish.[3] There are many explanations for why the expansion will take longer, but one contributing factor that is slowing this effort is the pace at which the needed permanent facilities for these units can be constructed. This problem is not unique to Afghanistan or the ANASOC's facility requirements. This specific example illustrates a larger problem facing all Commanders in contingency operations. Contingency construction takes too long, has complex authorities that are derived for stateside implementation, and does not enable, but detracts from theatre commanders' ability to accomplish their strategic objectives.

In order to frame this problem, some definitions are needed. It is important to understand how contingencies are defined, what constitutes facility construction, and what "contingency contracting" means? A Contingency Operation is defined under Title 10 as an operation that the Secretary of Defense declares and may involve the armed forces engaging in military operations against some enemy or opposing force.[4] Additionally, the law allows the President and Congress to declare contingencies during domestic natural disasters in which military personnel are mobilized for assistance.[5]

Joint Publication 4-10, *Operational Contract Support*, defines contingency contracting as “the process of contracting for supplies, services, and construction from commercial sources in support of contingency operations.”[6] However, Operational Contracting Support includes significant contracting support integration prior to the start of any contingency. Chapter III of *JP 4-10* includes significant discussion of the various groups and planning cells responsible for this type of advance planning for contingencies.

General engineering facilities construction in support of contingencies may require building anything from barracks and dining facilities, to power plants, ports, and runways.[7] In addition to construction for Joint Forces, U.S. engineers often have construction responsibility for host nation forces and critical civilian infrastructure to support a stable environment. Through authorized construction agents, billions of dollars in facilities in both Iraq and Afghanistan were constructed for essential public infrastructure, including those for electricity, water, and wastewater.

Regardless of the type of construction or whether it is for coalition or host nation forces, Joint Commanders are losing valuable time and money procuring and providing contingency construction services during all phases of joint operations. These resources are lost as commands struggle with numerous challenges, some of which are due to internal process and turnover, but may also have external causes.

This Student Research Paper evaluates changes to U.S. code, planning processes, and funding for construction that the Department of Defense (DOD) could implement through Combatant and Joint Force Commanders (JFC). This analysis begins with a review of the current state of joint engineers’ ability to provide contingency

construction services and past efforts at reform. It will then review the policy, legal, regulatory, and doctrinal aspects that preclude more effective and efficient execution of contingency construction in support of the JFC. Finally, strategic and operational level recommendations are made to provide options and further the debate on this topic. Some concepts associated with contingency construction are included; however, the reader assumes a basic understanding of certain concepts.

Background / Problem Definition

"During the first twelve years of contingency operations in OIF [Operation Iraqi Freedom], OEF [Operation Enduring Freedom], and Operation New Dawn, the Joint Force established more than 1,000 contingency bases of varying sizes and duration, without integrated, comprehensive Contingency Basing policies, doctrine, materiel, or even a holistic strategy."[8] Despite DOD's considerable experience in basing in previous conflicts, the joint force continues to struggle with coherent and fiscally prudent basing and associated construction decisions. Joint force engineers and construction contract administrators deal with these challenges, due to the extremely complex nature of planning, programming, and constructing facilities in contingencies.

Multiple audit agencies have found that contingency construction delivery is hindered by unclear guidance, slow funding approval processes, inadequate requirements definition, and a lack of strong quality assurance and contract oversight, leading to acceptance of substandard construction.[9] Commanders have broad authority for employment of manpower and the procurement of goods and services in conflict and peacetime, but their ability to approve and manage construction projects in support of their mission is extremely limited. Joint Force Commanders have limited authority over funding, standards, and acquisition regulations for contingency and non-contingency

construction projects. This issue has been an ongoing struggle for decades between Congress and the DOD.

Congress is reluctant to provide the DOD expanded authority to obligate construction funding, because the Department has demonstrated at least since the early 1960s a tendency to overstep its authorities when dealing with construction funding.[10] This tendency has caused Congress to provide oversight that is more stringent and begins to restrict DOD's authorities in this area. Limited contingency construction funding authorities and the inability of construction agents to quickly deliver projects have resulted in Commanders utilizing the Logistics Civil Augmentation Program (LOGCAP) for billeting or other construction services. However, the use of LOGCAP for major construction can be risky and expensive without proper construction agent oversight, as in the case of the 101st Airborne Division bed-down project in Mosul, Iraq in 2003. This project resulted in DOD vastly overspending on a barracks project that was constructed by the LOGCAP contractor instead of an authorized construction agent.[11] The DOD has since provided additional guidance that prohibits use of service contract funds in this manner.[12]

In the 2005 Military Construction Appropriations Bill, Congress raised concerns and cautioned DOD about overuse of out-of-cycle and over-threshold construction project requests needed for life, health and safety concerns related to anti-terrorism and force protection.[13] Then in 2008, Congress created the Office of the Special Inspector General for Afghanistan Reconstruction (SIGAR) to provide oversight of reconstruction projects and activities and to detect fraud, waste and abuse.[14] This individual oversight was deemed necessary despite the DOD already having an internal audit agency, the

DOD Inspector General, and each of the subordinate services possessing their own audit agencies. However, despite occasional DOD failure or abuses of construction authorities, there is general agreement that the rules governing military construction are at least part of the problem. One Army lawyer, writing in DA Pam 27-50-387, *The Army Lawyer*, synthesized the problem succinctly in 2005.

> While U.S. forces have had great tactical success in meeting new threats, the legal framework for funding military construction has not adapted to the new security environment. Maintaining the initiative in the GWOT requires agile forces able to deploy, operate, and sustain themselves on short notice anywhere in the world. Military construction funding, however, remains mired in a multi-year budgeting cycle, with appropriations geared toward maintaining the existing Cold War infrastructure.[15]

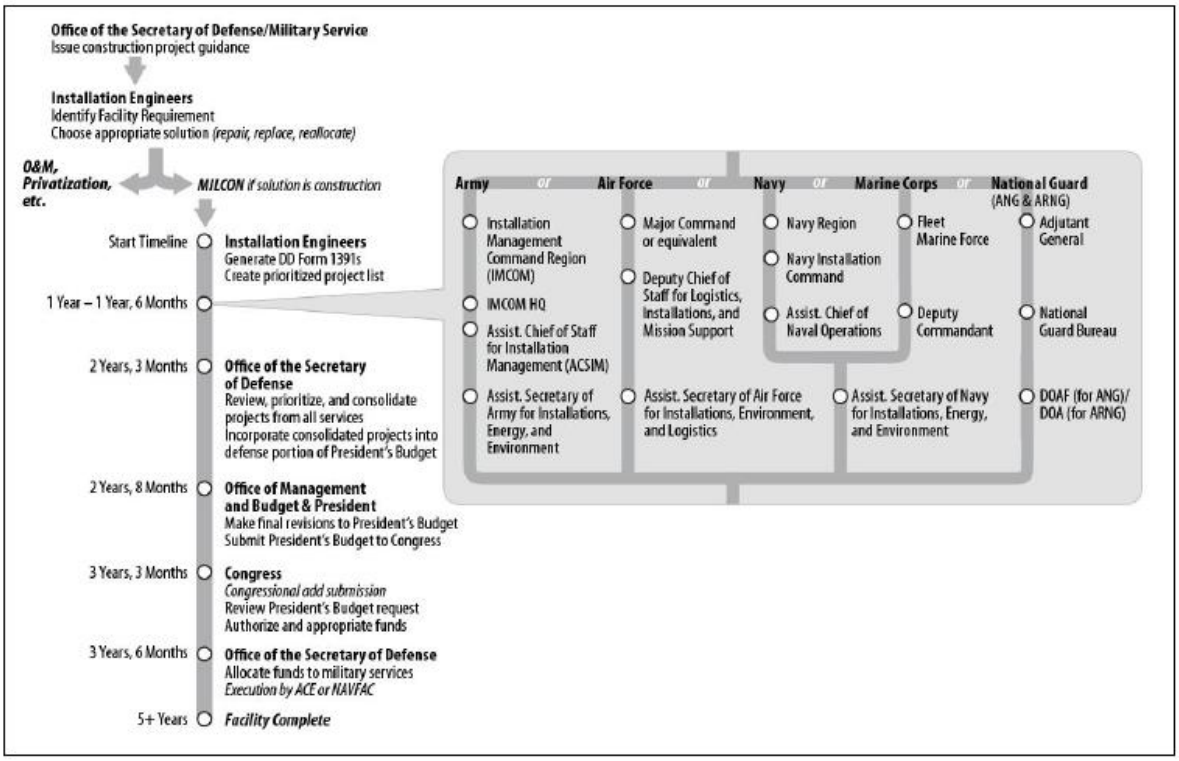
The complexity of funding and authorities governing military construction can compound problems for commanders. The lack of understanding of military construction (MILCON) rules is a leading cause of Anti-Deficiency Act (ADA) violations, which can result in time-consuming investigations, project delays and in rare cases, military justice concerns.[16] A fear of creating an ADA violation can result in bureaucratic, slow and risk-adverse processes. Complex rules, substantial Congressional oversight and interest, and steep penalties for failures, all have resulted in a system that is slow and does not reward risk-based decision-making.

Understanding the Problem

A basic understanding of contingency construction funding authorities is important to understanding the problem. Similar to all other DOD resources, Congress provides both the authorities and appropriations for DOD construction projects in separate bills. Under 10 U.S. Code § 2802, the Secretary of Defense and subordinate service secretaries may carry out any construction projects as authorized by law.[17] Authority granted by law to complete a military construction project includes the

authority to conduct all surveys and site preparation, control or acquire the facilities, provide supporting utilities and needed equipment, as well as conduct the planning, supervision and administration for the project.[18] Title 10 also "specifies that all military construction projects, regardless of type of funds, must include all work necessary to produce a 'complete and usable facility' or a 'complete and usable improvement to an existing facility.'"[19]

Major projects are typically authorized annually in a *Military Construction Authorization Act* (MCAA) as a part of or accompanying the *National Defense Authorization Act*. The normal military construction prioritization and approval process is shown in the Figure below, taken from a 2016 Congressional Research Service Report.[20] The process includes multiple levels of approval and competition for resources at each level. While sometimes used in longer contingencies for major projects, it does not lend itself to rapid resourcing of immediate construction requirements.



Source: DOD information, CRS graphic.

Figure 1. Military Construction Process[21]

Joint Publication 3-34, depicts the approval and funding authorities in contingency environments in Appendix E. The complicated relationship differs between command and funding authorities. The Theater engineer or Joint Task Force (JTF) engineer is responsible for coordinating with the component engineers for construction requirements.[22] These requirements are pushed through the service components to the Geographic Combatant Command (GCC) engineer cell. The GCC engineers, with the support of the GCC Commander, will advocate for projects through the Office of the Secretary of Defense (OSD) to Congress for approval.[23] Money for construction is appropriated by service, so the service components must support the projects, in addition to the GCC and OSD.[24] This relationship is depicted in figure 2.

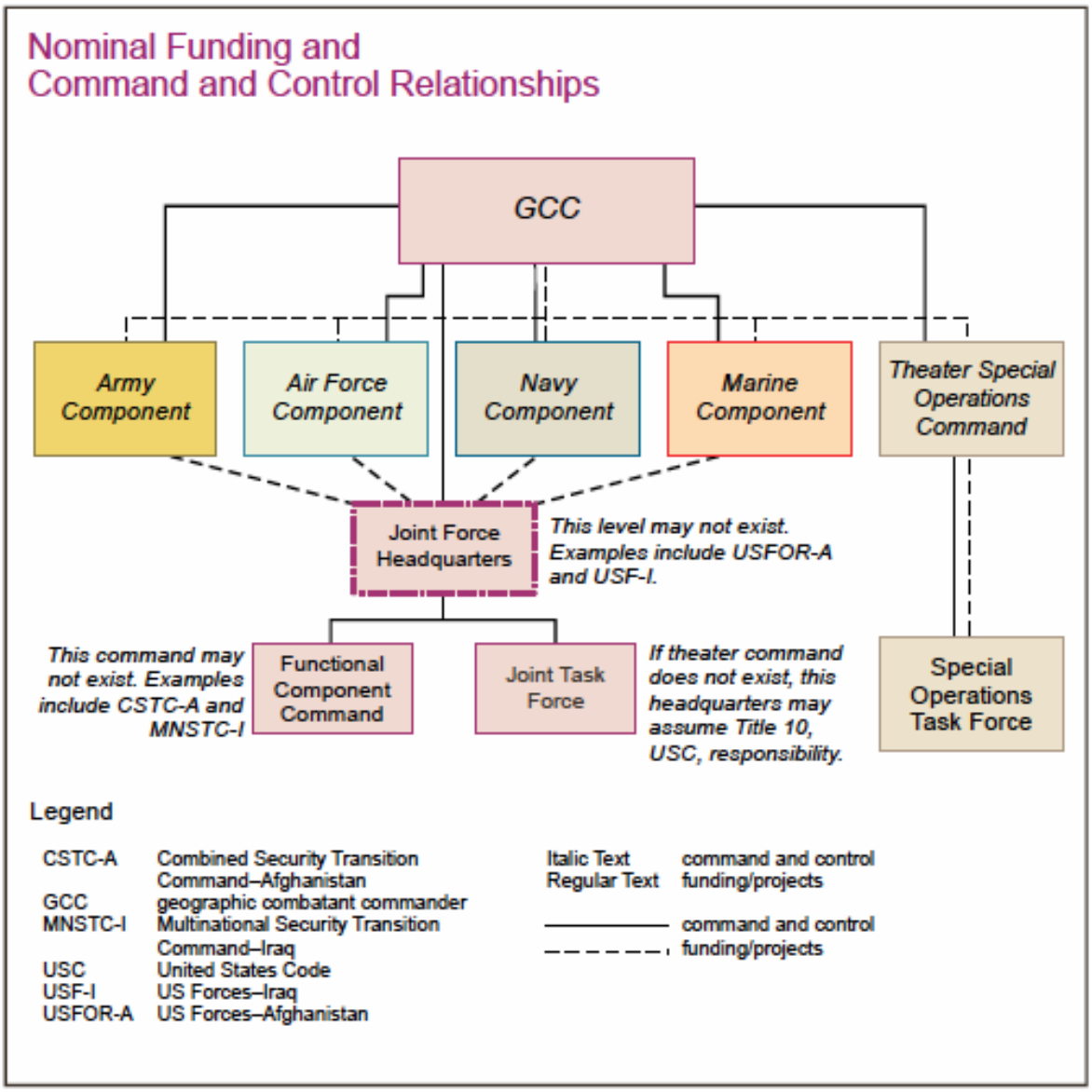


Figure 2. Funding and Command and Control Relationships (JP 3-34, Figure E-1)[25]

Congress provided the Department of Defense additional authorities for construction beyond projects specifically authorized in the MCAA.[26] Title 10 outlines multiple authorities under Sections 2803, 2804, 2805, and 2808 that can be used in contingencies.

Section 2803 allows the services to use up to $50 million in appropriated but unobligated MILCON funds for Emergency Construction that is vital to national security

or for protection of life, health, safety, or quality of the environment.[27] However, a 5-day congressional notification applies and a previously congressionally approved project could be cancelled in favor of the emergency need.[28] Congress also generally appropriates $10 million annually for Section 2804, Contingency Construction, projects. These projects are at the Secretary of Defense's discretion and require a 7-day congressional notification.[29] Unspecified Minor Construction authority under Section 2805 exists in contingency and non-contingency environments. It authorizes the Military Department Secretaries' approval of appropriated Operations and Maintenance (O&M) funding for projects totaling over $750,000 up to $6 million. Projects totaling more than $2 million require a 14-day congressional notification.[30] Finally, Section 2808 authority, also known as Contingency Construction Authority (CCA), allows the Secretary of Defense or subordinate military department Secretaries to approve up to the total amount of unobligated MILCON funding to support the Department of Defense in the event of war or national emergency.[31] The Secretary of Defense is required to notify Congress of the decision to use this authority and the cost of each project.

Non-construction authority under Section 2811 allows the defense and individual military secretaries to use unobligated O&M funds for facility repair projects up to $7.5 million.[32] Additions to new facilities are prohibited under this Section, but conversion of a facility to a new purpose is allowed if the facility dimensions do not increase.[33] While there seems to be a lot of room to fund contingency construction projects as repair projects under Section 2811, the services precisely define "what constitutes construction, maintenance, and repair, and what expenses must be included in the funded cost."[34] For example, maintenance includes work to preserve real property and

prevent deterioration or premature failure, whereas repair is intended to restore real property or components to a functional condition.[35] Unfortunately, it is also relatively rare that facilities exist in contingencies that can be efficiently repaired under this authority.

As can be seen, Congress has attempted to help the DOD develop the appropriate tools to expedite Contingency Construction. The multiple public laws noted above were passed to assist DOD, beginning as early as 1982.[36] However, the laws suffer from several problems. For example, the use of appropriated but unobligated funding requires contingency projects to compete with projects based in the U.S. and the territories. Projects that have strong Congressional interest and previous approval would have to be cancelled in order to fund a contingency project. Additionally, Congress' emergency statutes "require notifications to Congress, waiting periods, determination of estimated costs, and in some situations, reprogramming of funds from unobligated funds."[37] These requirements drive lengthy bureaucratic processes that are not responsive to the Joint Force Commander's immediate requirements in theatre.

Despite a willingness to provide additional construction authorities to DOD, Congress has also reacted strongly to DOD's perceived misuse of existing authorities in the past. One particularly egregious example is the Army's use of the "Reres Doctrine" in 2000 to reprogram O&M appropriated funds for use on military construction projects.[38] The Army's Deputy General Counsel Matt Reres produced a policy memorandum, which declared a new definition of construction in support of combat operations, different from the accepted definition at the time.[39] Using this policy direction, the Army authorized the use of O&M funds for contingency construction, essentially reprogramming funds into MILCON to accomplish their mission.[40] This

practice essentially bypassed Congress' authority to appropriate funds for a specific purpose.

Congress responded in 2003 by including language in the fiscal year 2003 (FY03) Emergency Wartime Supplemental Appropriation that refined the definition of a military installation in the MCCA and admonished the DOD for this practice.[41] At the same time, Congress provided the Section 2803 authority to DOD to use O&M funds for overseas contingency construction projects, but it was clear that Congress intended DOD to follow existing military construction rules regarding authorities and notifications.[42]

In addition to complex and competing construction authorities, the second major limit on rapid contingency construction is the authority over technical standards governing facility construction. Three Unified Facilities Criteria (UFCs) apply that govern the standards for constructing and repairing facilities in contingencies. These standards are critically important as they affect the life, health, and safety of a project, as well as the speed with which the architectural and engineering design and construction can be completed. Complex construction standards also can limit the pool of available contractors and drive up prices, as well as making quality assurance (QA) efforts on behalf of the government more difficult, costly and prone to error. The DOD has struck a balance between safety and speed of construction with three well-structured references for engineers.

Unified Facilities Criteria 1-201-01, Non-Permanent DOD Facilities in Support of Military Operations, dictates the minimum life, health and safety requirements for non-permanent facilities built for used by DOD personnel in military operations.[43] The UFC

separates Non-Permanent facilities into Initial, Temporary and Semi-Permanent Construction Levels and provides guidance on each. An “Initial” level refers primarily to units’ organic assets and field craft considerations associated with tactical unit training. Temporary and Semi-Permanent Construction levels have significantly more specificity included for numerous facility types. Some semi-permanent facilities are recommended for full UFC compliance to allow for economical upgrades to permanent construction later.[44]

Unified Facilities Criteria *1-201-02, Assessment of Existing Facilities for Use in Military Operations*, provides guidance for assessing the life, health and safety concerns of an existing facility for occupation by DOD personnel during military operations.[45] Understanding these criteria can be extremely helpful to Joint Engineers as funding and authorities for repair of existing structures can be approved at local lower levels.

Unified Facilities Criteria *1-202-01, Host Nation Facilities in Support of Military Operations*, governs the “planning, design and construction of all facilities built for Host Nation personnel use outside of the United States and its territories and possessions.”[46] The Authority Having Jurisdiction (AHJ) must determine the appropriate standards for Host Nation facilities early in an operation based on the theatre commander’s guidance, this UFC, and any other governing agreements between the U.S. and the Host Nation. Designs should be sensitive to cultural and architectural norms, be supportable by local infrastructure, and incorporate constraints to building materials, skilled labor, and testing and inspections.[47]

These UFC’s do present major limits to rapid accomplishment of contingency construction, but also ensure the safety of U.S., coalition, and host-nation personnel

occupying U.S.-built or -repaired facilities. With proper early planning, challenges associated with compliance can be overcome and timelines for construction shortened.

Another major limit to rapid contingency construction are the regulations governing construction contracting in contingencies. The *Federal Acquisition Regulation* (FAR) recognizes the U.S. Code definition for a contingency operation. *Federal Acquisition Regulation*, Part 18, provides for simplified procedures in a contingency operation including the use of simplified acquisition and purchase thresholds for goods and services, but does not provide any additional contingency authorities.[48] The *Defense Contingency Contracting Handbook* provides the following guidance to acquisition personnel supporting contingencies.

> Contingency contracting processes can differ on the basis of the size, duration, and complexity of the contingency, but mechanisms are in place to help deliver rapid contracting support to the warfighter. CCOs [Contingency Contracting Officers] and all DOD officials have an ethical obligation to abide by laws and regulations, even in contingency environments when the operational tempo is high and every acquisition seems to be "priority one." However, in the absence of clear-cut directions and theater-specific procedures, FAR 1.102-(4)(e) encourages personnel to be innovative and use sound business judgment—but not bend or break rules. The CCO needs to find ways to conduct business professionally but still be innovative, providing support expediently, efficiently, and legally.[49]

While this guidance appears to provide contracting personnel broad discretion, in practice the lack of detailed guidance in contingencies causes many Contingency Contracting Officers to revert to the procedures learned and implemented in their continental United States (CONUS) environment. The reluctance of acquisition professionals to "be innovative" as called for in the *Defense Contingency Contracting Handbook* is completely reasonable. As the ultimate authority on contracts, an *Anti-Deficiency Act* violation resulting from the authorization or obligation of government funds without express authority could end in administrative or penal repercussions.[50]

However, the acquisition process and authorities account for some, but not all of the pre-award project delays.

Additional delays contribute to the time it takes to get a project executed once approved and funded. During contingency operations, construction projects are generally executed through DOD construction agents. In an effort to minimize duplication of effort for the various military departments, DOD Directive 4270.5*, Military Construction*, provides guidance for the use of specific department's design and construction agents based on geographical areas.[51] Based on this Directive, the U.S. Army Corps of Engineers (USACE) "provides design, construction execution, and related engineering services to U.S. Central Command and other activities within the U.S. Central Command area of responsibility."[52]

The USACE has vast experience in design, award and quality assurance of military and civil works construction projects. This enterprise has the systems and experts to provide these engineering services in overseas locations and has proven an ability to rapidly deliver construction on occasion. However, USACE's performance is hampered by the rules that govern contingency construction, a lack of strategic planning, and in some cases, intermittent quality assurance breakdowns after contract award. U.S. Army Corps of Engineers conducted a recent review of 47 projects awarded from FY 2015-2017 in Afghanistan. The data showed that contracts were taking from 99 to 555 days to award.[53] The most predominantly cited reasons behind the delays were: changes to the project scope, funding delays, and limited engineering staff availability.[54] These reasons are directly attributed to a lack of sufficient prior planning or rapidly changing conditions.

Pre-award problems are only one part of the challenge. Construction itself takes time and many approaches used in developed countries to accelerate schedules are largely inadequate in the developing world. Construction contractors are hampered with unskilled workforces, inferior materials, limited logistics chains, security issues, design and construction inexperience, and many other issues. Such challenges frequently result in schedule delays, work being done over, and late project delivery. The same USACE review in Afghanistan showed that only one quarter of all projects delivered from FY 2014-2016 were on time as defined by their user's required occupancy date. Reasons for the post-award delays included real estate issues, security, site access, scope changes and Afghan contractor inexperience.[55]

More recently, construction agents also must comply with Vendor Vetting requirements associated with Task Force 2010. This Task Force aims to keep U.S. funded projects from benefitting the enemy, but is extremely difficult to implement. It enforces both pre- and post-contract award vetting requirements that can bar contractors at any time. The processes and outcomes of this program can become self-defeating and further frustrate combatant commanders in need of construction. Even if a vendor is vetted and begins construction, insurgent and criminal groups can influence projects, ultimately resulting in a termination. Termination of a contract can set a project back by years, as well as potentially open the government up for litigation. While recent changes to the vendor vetting process has given Commanders more authorities to make decisions on specific contractors, the process still takes time to prepare for decision. If a contract re-award is required, significant delays will occur and funds

designated toward that project may be tied up for litigation and not available for the replacement project.

Training is a key component of effective contingency construction delivery. Training can affect timelines beginning in the planning process, when joint engineers may not understand the appropriate subject matter experts and capabilities that are available. However, contracting personnel, design engineers and quality assurance staff can affect timelines just as significantly with improper preparation and knowledge of the environment and governing rules.

In a summary of reports issued from January 1, 2008 - March 31, 2014, the DOD Inspector General and Air Force Audit Agency identified numerous weaknesses with contingency construction contracts.[56] However, quality assurance issues were cited more than the other weaknesses and were the most severe issue due to their impacts on life, health, and safety concerns in the facilities.[57] The USACE's QA efforts can be hampered by the number of facilities under construction at one time and their inability to visit sites that are constructed for host nation end users. Additionally, specialty Quality Assurance personnel like Mechanical and Electrical engineers are tough to keep on staff and deploy to multiple locations throughout the area of responsibility (AOR) for inspections.[58] Some failures were due to a failure to conduct specific QA requirements for inspection and documentation, which indicates a need for more or better training for these personnel.

In another study, a Senior Contingency Contracting non-commissioned officer stated in 2010, that minimal staffing "drove inadequately trained engineers to write, inspect, and accept projects on behalf of the [U.S.] government."[59] While the training

has been greatly improved, oversight agencies continue to find significant shortfalls in construction project delivery that point out that continuing improvements in training are needed.

Despite the previously discussed complexities, the issue causing the most problems for construction of facilities for U.S. forces is a changing theatre or campaign strategy. As demonstrated in Iraq and Afghanistan, multiple changes to national policy and theatre strategy can have debilitating effects on any long-term planning. These large-scale changes cause the military to change bases' purpose and service life constantly, resulting in construction planning and projects that do not make sense. The DOD attempted to address some of these synchronization and planning issues through a Capabilities Based Assessment and subsequent Integrated Capabilities Recommendations on base camps in 2012-13.[60] The "DoD stood up the Contingency Basing Executive Council (CBEC) in 2014 as the senior governance body for capability development, policy, direction, and synchronization of all aspects of contingency basing across DoD."[61] Department of Defense Directive 3000.10*, Contingency Basing Outside the United States*, clarifies DOD policy to "pursue increased effectiveness and efficiencies in contingency basing." The directive assigns responsibility and goals regarding contingency basing, but its effects remain to be seen. However, DOD can only plan based on the strategic direction as provided by the administration. When political goals and direction changes, DOD can only advise of the challenges this poses to theatre or campaign strategy and planning.

Discussion of Issues

Persistent problems with Contingency Construction delivery can be grouped into four categories: Planning, Design, Procurement, and Statutory Authorities.

Planning

Planning issues are those that require the most immediate action and can achieve the most positive effects. They include actions taken before combatant command or joint force requirements are generated and include most importantly: consideration of immediate basing needs and locations, determination of a need for future base transitions as the operation progresses, and development of the appropriate contract vehicles to meet the Joint Commanders' needs. Joint Publication 5-0, *Joint Planning*, discusses basing concerns in detail as part of a Joint Force's ability to attain operational reach, which is essentially the ability to move forces strategically to achieve effects. Planners must ensure that facilities and infrastructure to support immediate operational reach and logistics resupply exist within the Joint Operations Area (JOA). If they do not exist, planning should determine where to locate and construct the necessary facilities.[62]

Only Commanders with Title 10 authority make major basing decisions and usually after consultation with Host Nation and Department of State personnel due to their long term commitment and criticality to attaining operational reach.[63] Significant effort should be put into planning for construction of major infrastructure, since it places such a heavy demand on organic and contracted construction assets,[64] and adjustments are difficult once committed. The GCC Contingency Plans may include contingency basing plans, but they rarely include base camp master plans with phased plans for expansion and contraction to account for the full duration of the conflict.

If possible, potential future basing levels should be determined early in the planning process. This allows construction levels to be determined and the appropriate funding sources to be arranged. Doctrinally, engineers at the strategic level advise on

contingency basing characterization and location, while GCCs determine basing requirements in their AOR.[65] Combatant Commanders should then specify in Operation Orders and Operation Plans the construction standards in the Combined Joint Operations Area (CJOA) in order to minimize the engineering effort, while balancing adequate safety and mission needs.[66]

Initially, planning for the possible evolution of contingency bases is rarely a priority and therefore efficiencies and cost-saving measures are frequently overlooked.[67] Joint Engineers should use operational estimates for mission duration in determining levels of construction and construction standards. Once contingency operations commence, conditions based triggers are more realistic in determining if and when to upgrade or replace facilities.[68] Secretary of Defense approval is required to transition a base from temporary to semi-permanent or from contingency to enduring. One reason for this requirement is that changes to a base characterization trigger changes in the facility construction standards found in the UFC 1-201-01.[69] Additionally, Combatant Commanders are given the authority to approve the use of permanent construction standards at a non-enduring base, but as discussed earlier, they have extremely limited fiscal authorities for construction.[70] Both policy and law are aligned to limit costly permanent construction in locations where it may not be absolutely needed.

Coordination with designated construction agents should occur as part of the advanced planning process. Within the GCC, engineer staff members are responsible for coordination with the appropriate construction agents and other engineer support agencies for their geographic operational area.[71] Construction agents like USACE and Naval Facilities Engineering Command need to embed their personnel into joint

planning efforts early, because they are experts at requirements determination, navigating the funding processes, and addressing issues like interoperability, scalability, and transitions to permanent construction. These construction agents also assist in planning for large capacity contracts for master planning, design and construction services that may eventually be needed in foreign theatres. Waiting to address these types of service requirements till later in the operation can lead to an inability to provide Joint Commanders with needed engineering effects, due to the length of time required to award large contracts. While the immediate requirements for an operation may focus on Initial and Temporary requirements, construction agents need to plan for and be prepared to deliver contract vehicles and designs that focus on the semi-permanent and permanent facilities that may transition later in the conflict. Construction agents also may be needed for host-nation security forces or infrastructure construction requirements and should plan for that possibility. A key focus for construction agents needs to be on reducing the pre-award and post-award contract completion times through early requirements definition and development of the appropriate contract mechanisms.

A useful tool in the planning and execution phase of any operation is the Joint Construction Management System (JCMS). The JCMS is based on the former Army Facilities Component System and is meant to assist engineer planners with development, construction, and material acquisitions for contingency bases. The designs and specifications in this system were intended for construction by either military engineers or civilian contractors and allow for site adaptation and the substitution of locally available materials if necessary.[72] The Chief of Engineers

maintains the system for use with design drawings and specifications, planning guides, and bill of materials for various facilities, structures, and utilities.[73] Designs within the system meet UFC requirements. Additionally, the JCMS system can provide different designs for various theatres of operations based on climate and available materials. While primarily used for temporary and semi-permanent construction, permanent designs meeting U.S. and host nation criteria could be included in this system. These designs could be vetted and maintained by the appropriate construction agents for that theatre. Standard designs that are site-adapted by contractors are already used extensively to reduce costs.

Design

Design issues are those actions associated with the Architectural and Engineering design process that include end-user, code and Unified Facilities Criteria requirements. It is important to designate the AHJ over the chosen construction standards early in the contingency. This individual will ensure the enforcement of the appropriate standards across the CJOA and, if delegated by the combatant commander, manage waivers from the standard for operational reasons.[74] The appropriate Service Chief Engineer must approve waivers requested for non-operational reasons.[75] The GCC engineer staff is responsible for recommending construction standards, but the AHJ will ensure their enforcement.[76] Doctrinally, the Joint Facilities Utilization Board should periodically review construction standards in light of the current operational environment and recommend changes to the JFC.[77]

This process is important to manage so that the user, the construction agent, and the AHJ appropriately agree upon contract standards. The proper standards then must be detailed in the construction contracts and subsequently enforced through the QA and

audit processes. In 2016, a lack of clarity regarding construction standards specified in a contract for multiple facilities within the Kabul Ministry of the Interior complex led to a SIGAR alert letter being sent to the Secretary of Defense.[78] The Special Inspector General perceived a life, health and safety concern since the facility was constructed with doors that had not been certified under Underwriters Laboratories standards.[79] After further review, USACE and Central Command (CENTCOM) determined that the construction standards designation process and documentation had not kept up with more recently awarded contracts, leading to confusion regarding which standard should be followed. The presence of construction standards, with appropriate country-specific waivers, is important for liability and life, health and safety concerns.

In addition to early designation and dissemination of design standards, other design issues can impact construction delivery. Decisions regarding base camp levels of construction that are made for operational reasons in the planning process can also affect delivery times. After establishing a base with initial facilities, the timeline to transition to temporary, semi-permanent, or permanent standards should be deliberately assessed. Temporary standards rely on expedient construction and locally available materials and construction methods, and can increase operational efficiency for up to five years, but require increased engineer effort.[80] Since temporary construction usually has to be destroyed because it is not easily converted to a more enduring level,[81] joint forces may decide to transition from initial directly to semi-permanent standards. However, permanent facilities on enduring bases in contingencies require design engineers to abide by the same UFCs applicable to construction on CONUS-based installations.

When determining base camp facility standards, the joint staff must also weigh the duration of various missions based in like locations. For example, an Air Force unit maintaining a no-fly zone from a specific airfield may be an enduring mission as opposed to a joint force providing humanitarian assistance of limited duration. Engineers and planners also must weigh the operations and maintenance costs for various systems before making final decisions.[82] While leaders are not always given clear guidance regarding contingency operation durations, joint planners must make assumptions to answer as many of these questions as possible. The planning assumptions should be consistent between the combatant command, joint force, service component command, and construction agent.

Procurement

The contracting community's ability to execute construction support requirements has a significant impact on construction delivery. The Army experienced tremendous difficulties associated with the greater need for contracted goods and services and in 2007 determined to address them. The Secretary of the Army established the independent Gansler Commission to review the state of contingency acquisition and program management support and provide recommendations to the Army to "ensure that future military operations achieve greater effectiveness, efficiency, and transparency."[83]

The commission made multiple recommendations pertinent to all services. First, the Army should increase the number, development, and standing of contracting personnel ready to conduct contingency operations.[84] Second, the organization and responsibility for contingency contracting support needed to improve. Third, the commission described the training and tools for contracting personnel as insufficient.

Finally, the committee recommended “legislative, regulatory and policy assistance” measures to increase effectiveness.[85] Important progress has been made on the first two recommendations, based on continued audit agency findings reviewed for this report. However, the third and fourth recommendations require continued improvement. Of note, there was no mention of changes to the FAR or U.S. Code Construction authorities in the “Legislative, Regulatory, and Policy Assistance” recommendations section.

An independent contracting chain of command was established within the Army in 2008 to assist with contingency contracting, because of the Gansler Commission.[86] However, contracting organizations still must integrate early with the joint planning team to identify Operational Contracting Support (OCS) requirements and capabilities.[87] Numerous OCS planning decisions support the conduct of contingency operations. The GCC will normally designate a Joint Theatre Support Contracting Command (JTSCC), a Lead Service for Contracting and a Lead Service for Contracting Coordination to ensure the contracting effort is coordinated among various contracting agencies and makes the best use of local commercial resources.[88] The JTSCCs are critical in post-conflict operations when reconstruction, training and foreign military sales missions entail tremendous effort on the part of the acquisition community.[89] Joint Theatre Support Contracting Command use Acquisition Instructions to standardize procurements in a JOA and provide specific clauses for acquisition personnel to include in contracts, which are governed by theatre policies.[90]

While these planning decisions are meant to better support the joint commander, problems still do exist. Many of these Acquisition Instructions are not necessarily

JTSCC policies, but merely interpretations or restatements of confusing or ambiguous legal guidance from Congress and the DOD. It is also difficult for JTSCC's to completely disseminate accurate guidance to all supporting acquisition personnel, due to the lack of a governing information management system.

Construction services contract support is an area that needs improvement. Two of the most critical related tasks for contingency environments are the planning and prioritizing of requirements, assessing needs, and providing recommendations.[91] Such proactive coordination can be done at the strategic, operational, and tactical levels with contracting personnel to ensure logistical needs and operational objectives are supported.[92] Specifically, early coordination with acquisition professionals ensures the appropriate contracting mechanisms like Multiple Award Task Order Contracts (MATOCs) are in place prior to contingencies. One example of such a mechanism is the Navy's Global Construction Capability Contract (GCCMAC), which provides $800 million in capacity for construction and engineering services.[93] This type of tool requires tremendous effort and coordination on the part of acquisition personnel and Combatant Command staffs to award, so their development must be prioritized and resourced during peacetime. However, pre-award time-savings can be significant and help with better performance, so MATOC and other mechanisms should be investigated during planning.

The implementation of the Gansler Commission's third recommendation is still incomplete. Despite improvement in training programs, gaps still exist in contingency contracting officer training. According to some, the *Defense Acquisition Workforce Improvement Act* and other certification requirements are becoming their own ends as

opposed to a means to improve Contracting Officer improvement.[94] The authors of the Gansler study also cautioned that “Expeditionary contracting should never be a first assignment. Contracting personnel sent into a theater of operations need to be highly skilled, adequately trained, and prepared for the challenging, fast-paced demands of expeditionary operations.”[95] Despite their recommendation, Defense Federal Acquisition Regulation (DFAR) Part 218.201, pertaining to contingency operations, still allows for the appointment of contracting officers that do not meet degree and business credit requirements. This practice runs counter to the need to send the best trained contracting officers into contingency environments.[96] Multiple studies continue to find contracting personnel training as a contributing factor to decreased performance in acquisitions.[97] Acquisition is not the only field impacted by training deficiencies. Lack of training in several specialty fields is another contributing factors to performance issues.[98]

The Gansler report suggested improvements were needed in developing information technology systems to assist the acquisition community. Systems for writing contracts are not standardized or user-friendly.[99] The commission recommended developing something similar to commercially available tax software.[100] A Contracting information technology system that could insert the appropriate clauses and standards based on location and applicable host nation building codes, customer type and applicable UFC, and duration of construction (semi-permanent, permanent, enduring) is needed for contingencies.

Statutory Authorities

While Information Technology (IT) systems can be developed between the services, the complexity of the existing Title 10 Code and its application in contingency

construction is outside of DOD's authority to solve. Congressional support is required to streamline statutory authorities in this area. Angela M. Calhoun and Marcia R. Larssen, in their Naval Postgraduate School thesis entitled "Implications and Constraints of Fiscal laws in Contingency Contracting," recommend streamlining regulations and approvals for construction using Joint Doctrine and/or Department of Defense Directives as appropriate.[101] Such streamlining should consist of a review of statutory authorities associated with Unspecified Minor Military Construction (UMMC), MILCON, O&M and repair thresholds and rules for contingencies. Congressional notification requirements to Congress during contingency operations should also be relooked as well as regulations governing the acquisition community like the FAR and DFAR.

A key question that Congress and DOD must tackle for any holistic review of contingency acquisition practices is: should U.S. rules for competition in procurement apply in other countries? The FAR provides slightly increased authorities in cases that are Title 10 defined contingency operations. The micro-purchase and simplified acquisition threshold are increased and simplified procedures are allowed for certain commercial items.[102] However, as demonstrated by the USACE data presented earlier, even with these additional authorities, the pre-award contracting actions for construction still require too much time to meet theatre commander requirements. Therefore, if these regulatory requirements are not meeting their intent, they should be reviewed and changed.

Recommendations

Provision of engineering and construction services in contingency operations is complex, adaptive, and necessitates measured changes to authorities, funding mechanisms, regulations, planning, and most importantly, lesson sharing in order to

improve the overall delivery. Additionally, when recommending appropriate legislative changes, DOD must recognize the inherent tension between the legislative and executive branches.[103] "Any lasting solution must balance commanders' responsibilities for mission accomplishment with Congress's responsibility to ensure public funds are wisely spent."[104] Most of the six recommendations in this report focus on legislative changes, since these would result in the greatest effects. The first three recommendations should be implemented as a set in order to be effective at improving contingency construction

First, Congress should, in conjunction with the Executive branch, determine a single specific authority for contingency construction and fully fund it for the most likely possible contingency operations.[105] This recommendation was put forth by Major Hughes in 2005 and would simplify understanding and greatly reduce the misuse of funds based on a lack of training or education. Additionally, the existing notification periods under Section 2803, 2804, 2805, and 2808 should be streamlined for a single time-period under such a contingency authority.

Ideally, the notification period would be eliminated altogether in favor of a follow-on report or notification. Congressional oversight would still exist under this scenario as the appropriation itself would be limited and Congress would maintain oversight to ensure compliance with appropriate requirements.[106] Under a single contingency construction appropriation, the threshold for approval of projects could be reduced to a Combatant or Theatre Command Level from the Secretary of Defense within fiscal limits. This would greatly reduce the amount of complexity involved in funding emerging construction requirements in rapidly changing contingency environments.

However, as previously discussed, indexing contingency construction funding to annual appropriations like the MCAA or other annual appropriations bills severely limits the Joint Commander, due to the timelines required to plan and forecast projects into the budgeting cycle. A revolving fund or “no-year money” fund is proposed as the second recommendation for funding contingency construction. A revolving fund similar to the Overseas Contingency Operations Transfer Fund is recommended. This type of fund allows the DOD flexibility to meet operational requirements based on actual execution over a period of time that exceeds the annual appropriations period.[107]

A joint fund, sourced by appropriations that can be used by any service is recommended for two reasons. First, the command and control and funding lines discussed earlier in JP 3-34, Figure E-1, would be consistent if a joint fund were used. The GCC and Theatre Command authorities would apply to both construction decisions and the resources to carry those decisions out. Second, a joint fund would allow any service component to provide commanders and staff for the contingency. However, the service component commands still have a vested interest in these projects and should be consulted for input prior to project submissions.

Congress could limit the total size of and growth of the fund in each year’s appropriation or by contingency. This would prevent the establishment of a DOD construction “slush fund” with limited oversight. Former Secretary of Defense Ashton Carter advocated for a similar fund within the DOD to react to critical emergent needs, albeit not in construction. Multiple agencies within the federal government currently operate such funds and Secretary Carter argued that even DOD had previously managed flexible funds successfully and could handle the responsibility.[108]

The third recommendation maintains Congressional control over spending while also providing GCCs the greatest latitude possible. Congress could approve both the revolving fund for contingency construction discussed in the second recommendation, while simultaneously dictating the use of standardized designs contained within the JCMS. This last idea was proposed in a slightly different format within an FY 2016 U.S. Army War College student's research project. Ms. Green proposed the development of a catalogue of congressionally pre-approved contingency construction based on the JCMS projects.[109] This approach would ensure that spending on new construction would be maintained within certain limits for each project and allow congressional oversight. Re-locatable and Pre-Engineered Buildings should be included as possible options in such a system. These types of construction are extremely cost efficient and can be rapidly erected with minimal training.

For easy use and understanding by joint engineers, the JCMS database could catalogue projects according to Commanders' funding approval authorities. A joint commander's authorities for construction project approvals should be consistent with their authorities for other types of procurements. Within the budget for a specific operation, joint commanders have the authority to obligate funds up to a specified amount, which should not be dependent on the type of appropriation.

However, without the appropriation of funding associated with the congressional authorization for contingency construction, the pre-approvals would not significantly speed the process. The congressional pre-approval must include the appropriate funding mechanism. For the reasons already discussed, a revolving fund is the best approach for rapid multi-year requirements. In order to dissuade the DOD from seeking

authorization of specially designed projects, Congress could maintain the current request and approval process for any project not in the JCMS system.

This approach would also help in maintaining an up to date JCMS database, as the system would need to include up-to-date designs for all possible U.S. and coalition forces' construction requirements. The GCCs' planning teams and construction agents would need to conduct routine reviews of the JCMS to ensure updated contents. The final part of this recommendation is for service construction agents to award MATOC contracts similar to the Navy's GCCMAC. The contract capacity would be based on the expected contingency construction requirements over a duration that corresponds to the theatre campaign plan (3-5 years). Contractors would be responsible for delivering JCMS designs throughout the geographic area where the contract was awarded. Site adapted standardized designs funded through a pre-approved revolving fund would significantly reduce the pre-award engineering and acquisition processes. Overall, this recommendation could significantly improve construction delivery.

The fourth recommendation is to alter the U.S.C. and Service Regulations definitions for Military Construction, Minor Military Construction, maintenance and repair. It is not clear that the strict interpretations of work classification used by DOD in contingencies were intended for use in theatres of war. Congress most likely did not intend the services to spend large amounts of time determining how to classify a project and obtain funding for it. These activities are currently required for mission success, but do not enhance the war effort. The strict definitions for work classification should be suspended during contingencies in favor of monetary threshold authorities at different levels of command. Contingency definitions for these terms could be tied to the existing

need for a contingency or emergency declaration. Similarly, the use of the no-year construction fund could be tied to this declaration as well.

Fifth, improvements in IT systems should continue. Specifically, software that assists contracting officers in meeting the requirements of their customers, but also ensures a JTSCC can easily incorporate combatant command directives and initiatives into contracts with limited confusion.

The current system of distributing theatre specific Acquisition Instructions is prone to human error and can lead to large value contracts with incorrect or omitted clauses if not done with precision. Appropriate software would ensure that Congressional and Executive branch guidance and UFC-required construction standards are incorporated into contingency contracts through the appropriate clauses with limited variations in interpretation. This tactical level tool would have strategic results, as guidance would be properly implemented contract by contract across the JOA. Additionally, such a tool would ensure better contingency construction contract execution by project managers, contracting officers, contracting officer representatives and quality assurance personnel.

Captain Chris Hearl's U.S. Special Operations Command study interviewed personnel regarding what might be useful in such a management module. These recommendations included updating regulations and policies, templates for documents required by contracting officers, checklists for all phases of the procurement cycle, construction references and tips on dealing with local nationals.[110] While it may not be feasible for a DOD-wide IT system to include everything needed for both pre- and post-

award contract management, even some of these requirements could be addressed within an initial system.

The Army Contract Writing System that is currently in development may meet the contingency contracting community's need for an IT system. The ability to use this system in low-bandwidth and in unclassified environments are excellent characteristics to include.[111] It is critical that the developers of this system utilize the expertise gained by the contracting community in the last several decades.

Sixth, all of the studies and reports on contingency construction reviewed for this project recommended better use of lessons learned. In general the DOD does not spend enough time documenting contingency construction lessons learned, as can be evidenced by the observation from one author that "as of September 2015, the Joint Lessons Learned Information System had no lessons learned recorded for contingency construction."[112] This is particularly critical now, because we have learned so much from the recent massive construction programs in the CENTCOM AOR and have made significant improvements that need to be exploited further.[113] The JP 3-34 recommends review of best practices and lessons learned during the planning process for future operations, but in time-constrained planning environments such valuable lessons learned must be easy to find.[114] The DOD Inspector General report #2015-059 recommended capturing lessons learned for personnel involved in each step of the contingency construction process to include programing, contracting and QA personnel and including them for training.[115] It is clear that important information must be captured and shared in a joint system to ensure efficient performance by construction agents.

The recommendations provided are a small sample of the many possible ways to improve the delivery of contingency construction services to the joint force. This report focused on the recommendations that would have the greatest effects on improving contingency construction at the strategic level.

Conclusion

- Revise Title 10 for a single authority for contingency construction.
- Authorize a revolving fund for contingency construction requirements.
- Catalogue congressionally pre-approved project types and approval levels within JCMS.
- Alter work classification decisions in contingencies.
- Develop better contingency contracting IT systems.
- Improve the review and sharing of lessons learned.

Figure 3. Summary of Final Recommendations[116]

Contracting for contingency construction requirements is a necessity given the current force structure. The DOD must have the ability to project forces into distant environments if the U.S. is to maintain its current strategic advantage as a global power. This need to support operational reach will not change in the foreseeable future. Current joint doctrine understands that there are rarely enough military engineers available to fulfill general engineering requirements; therefore, if the environment is permissive, civilians, contractors, multinational and Host Nation capabilities should be investigated.[117]

These engineering requirements can exist for U.S. or Host Nation forces. No matter where the requirement stems from, the enduring characteristics of any type of contingency construction is that it is inherently time-sensitive and sometimes difficult to forecast early in the planning and budget cycle. Currently provision of engineering and

construction services is at the mercy of CONUS-based and complex U.S. codes and Service regulations that severely limit flexibility and responsiveness. Planning and programming, acquisition and QA personnel struggle to understand the system and implement the requirements of it in a contingency environment that includes its own set of challenging conditions.

This research project included a detailed review of relevant studies conducted on contingency construction during the recent wartime period (2001 – current). Current U.S. code, regulations, and doctrine were studied to determine means to improve the delivery of construction services for theatre commanders. The author's personal experience with USACE in Afghanistan as well as the input of multiple professionals in the unit at the time contributed to a set of six recommendations. This research is intended to add to the body of knowledge on this topic and help support the lesson sharing needed to improve the execution of this critical mission in support of combatant and joint force commanders.

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[93] U.S. Joint Chiefs of Staff, *Operational Contract Support*, B-5.

[94] Hearl, *Synergistic Approach Integrating Joint Capabilities,* 54-55.

[95] Army Independent Commission, *Report of the Commission on Army Acquisition and Program Management in Expeditionary Operations,* 6.

[96] General Services Administration, *Emergency Acquisition Flexibilities.*

[97] Multiple studies like the DODIG Report #DODIG-2015-059, the Army Independent Commission on Army Acquisition and Program Management in Expeditionary Operations and Captain Chris M. Hearl's Naval Postgraduate School research, all advocate a need for additional training for acquisition in contingencies.

[98] Office of the Inspector General, Report #DODIG-2015-059, 8.

[99] Army Independent Commission, *Report of the Commission on Army Acquisition and Program Management in Expeditionary Operations* 7.

[100] Ibid.

[101] Calhoun and Larssen, *Implications and Constraints of Fiscal laws,* 81-82.

[102] General Services Administration, *Emergency Acquisition Flexibilities.*

[103] Hughes, "Uses and Abuses of O&M Funded Construction, 1.

[104] Ibid.

[105] Ibid., *23.*

[106] Ibid.

[107] The Office of the Secretary of Defense, *Fiscal Year (FY) 2003 Budget Estimates: Justification for the FY 2003 Overseas Contingency Operations Transfer Fund* (Washington, DC: Department of Defense, February 2002), 1, http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2003/budget_justification/pdfs/08_Overseas_Contingency/fy2003_overseas.pdf (accessed December 5, 2017)

[108] Ashton B. Carter, "Running the Pentagon Right: How to Get the Troops What They Need," *Foreign Affairs* 93, no. 1 (January - February 2014): 1.

[109] Green, *Contingency Construction Funding for the Future Force*, 21.

[110] Hearl, *Synergistic Approach Integrating Joint Capabilities,* 57.

[111] LTC Robert Wolfe, "Army Contract Writing System (ACWS)," linked from the *U.S. Army Home Page* at "PEO Enterprise Information Systems-Programs," http://www.eis.army.mil/programs/acws (accessed February 26, 2018)

[112] U.S. Government Accountability Office, *Defense Infrastructure: Actions Needed to Enhance Oversight of Construction Projects Supporting Military Contingency Operations*, GAO 16-406 (Washington DC: U.S. Government Accountability Office, September 2016), https://www.gao.gov/assets/680/679611.pdf (accessed October 25, 2017), 40.

[113] Dean E. Allen, Vinson B. Morris, and Martin P. Plys, *Analysis of Contemporary Contingency Contracting Educational Resources* (Monterey, CA: Naval Postgraduate School, December 2010), 21.

[114] Joint Chiefs of Staff, *Joint Engineer Operations*, IV-1.

[115] Office of the Inspector General, Report #DODIG-2015-059, 9.

[116] Developed by author.

[117] Joint Chiefs of Staff, *Joint Engineer Operations*, 1-2.