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Data-based business dashboard drives project success in Afghanistan Engineer District-South

A car’s dashboard instruments provide the information — speed, fuel level, engine temperature, location and direction of travel — you need to arrive at the right place at the right time. In much the same way, a “dashboard” of statistics helps U.S. Army Corps of Engineers Afghanistan Engineer District-South move rapidly and efficiently toward completing its construction projects in Afghanistan on time.

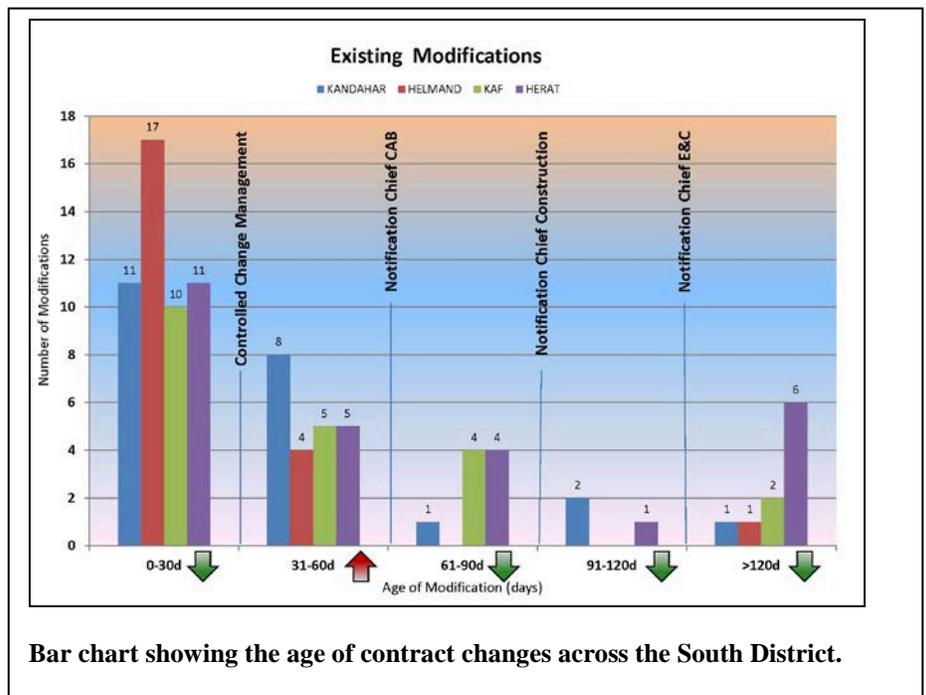
“About a year ago, we began to develop processes to monitor and refine our business practices in the construction division. At the time, the situation was pretty chaotic — we had a backlog of over 200 change orders [modifications to contracts], many of which were 120 days old or older, a lot of under-performing contractors, and a lot of projects that were not getting built,” said Bill Stout, chief of construction at the South District.

“We started with the end in mind,” he said. “We wanted to create an amicable business environment, which would attract able contractors who would finish projects on time. We needed to create management tools that would give us a district-wide view of our business, so we could focus on the areas that were causing contractors problems and slowing execution.”

Efficient and effective management of contract changes

Reducing the backlog and establishing a rigorous process for monitoring the status of contract changes was fundamental to improving district business practices, according to Stout. “When you issue a contract, you do your best to define the time and cost associated with the work. However, contractors often encounter conditions that were unknown at the time of contract award, which can increase their costs or the time it will take to complete the project. In those cases, you need to modify the contract.”

The district should process contract modifications quickly, ideally within 30



days, so contractors are paid correctly and have the correct amount of time to complete their work, Stout explained. “Rapid change management contributes to a predictable environment for contractors — they know if they encounter conditions that require a change, we will modify the contract quickly, and they will get paid for their work.”

Collecting the data to improve and manage change orders was relatively easy, Stout said. “The area offices reported the number of changes they had, and the length of time the actions had been in their offices. We imported the data into a spreadsheet and used it to build graphics — bar charts — that gave us immediate understanding of the existing situation. Then we pushed hard to get rid of the backlog and get new changes processed within 30 days.”

The focus on change orders allowed the district to become much more proactive in its contract management, Stout said.

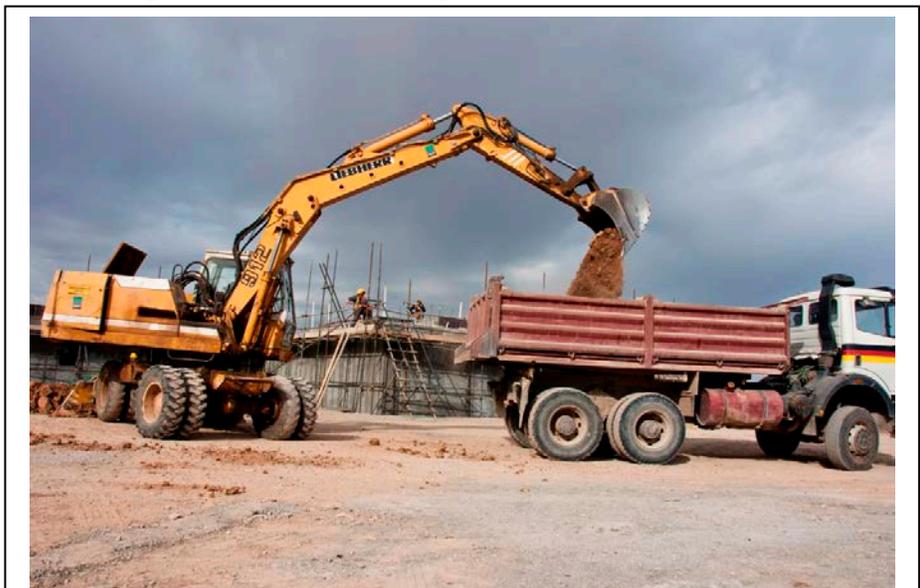
“Ideally, you manage contractor performance proactively, monitoring progress and conditions on the site. If site conditions require a change to the contract, you ask the contractor to prepare a proposal to deal with the change,” Stout said.

Managing changes proactively minimizes time delays, Stout said. “If you wait to react to a contractor’s request for an equitable adjustment, it often increases the performance time, which costs additional money.

“The bottom line on changes is that time costs additional money,” he said. “If you are proactive, contract changes are less likely to increase the time required to build the project.”

“Also, the longer it takes a change to be processed, the likelier it is to escalate into a claim, which costs everyone time and money,” Stout said. “We have a duty to cooperate with contractors — to pay them for work and to allow them extra time if contract conditions change. We also have a responsibility to the U.S. government and our customers to enforce contract terms, weed out non-performing contractors and keep projects moving. The end goal, as the District Commander, Col. Ben Wham, repeatedly stresses, is to finish projects and turn them over to customers.”

“We constantly work to improve our performance in processing contract modifications,” added Donny Davidson, Herat Area Engineer, who has been heavily involved in the improvement process. “We track all modifications with the intent to manage changes to 60 days or less. This reduces the friction for both the government and the contractor. Older modifications get attention from higher levels of leadership. The district has reinforced its Contract Administration Branch so it can rapidly



Construction proceeding at an Afghan National Army facility in the Herat area. The South District’s business practices keep projects on schedule and moving forward. (USACE photo/Mark Ray)

address changes, claims and requests for equitable adjustment received from the field. All these initiatives equal timely change management.”

Accurately measuring and monitoring execution

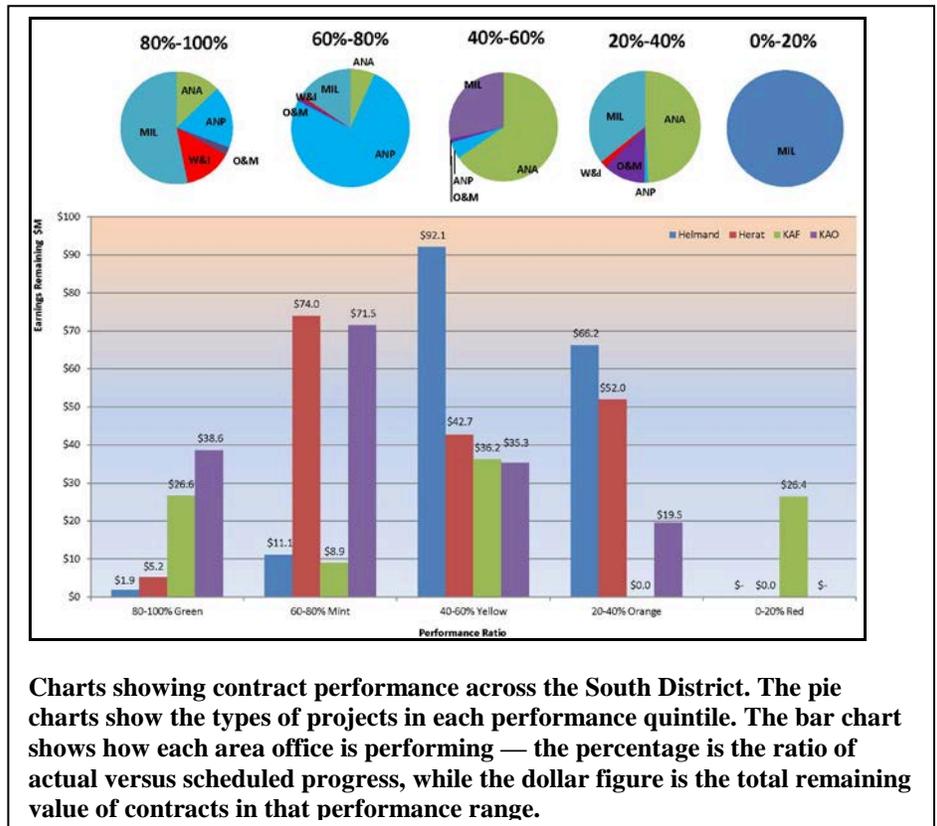
The district also needed a way to monitor execution of several hundred complex construction projects in the difficult and austere environment of southern and western Afghanistan. The keys were reliable data and graphical tools that allow managers at all levels to quickly identify challenges and take corrective action.

“We very actively encouraged our field offices to accurately and completely populate project data in the Resident Manager System [the Corps of Engineers’ construction information management database],” Stout said. “We exported and compiled the individual project data into a spreadsheet, so we can monitor progress at the district, area office, resident office and individual project levels. Cleaning up the data was a major undertaking that took about four months of hard work on the part of people across the district.”

The spreadsheet allows the district to look across its entire program to monitor and analyze execution, identify non-performing projects and contractors, and determine possible causes and solutions. To make analysis easier, Stout and his team created graphic portrayals of the data.

“We can measure actual progress versus scheduled progress by area office, resident office or individual projects,” Stout said. “Ideally, the ratio of actual to scheduled progress should equal one. We took the range of data on projects and divided it into quintiles, which we show on bar charts. The charts help us identify where we need to focus efforts to get projects on track. If we aren’t placing construction, contractors aren’t getting paid, and we aren’t moving forward.”

“We have set monthly goals for execution by project, resident and area offices,” Davidson said. “The field offices develop the goals, so they have buy-in on the model. We track work completed versus projections on a monthly basis, and the field offices compete to see who does best at placing construction. Right now, we are hitting 99% plus of our targets. Not bad by any measurement in a contingency environment or elsewhere.”



Engagement with contractors

As the district implemented tools to monitor placement, it began to engage contractors more frequently to ensure projects stayed on track.

“The district evaluates contractors using the Construction Contractor Appraisal Support System when projects are one-third and two-thirds complete, as well as when they are finished,” Davidson said. “The interim evaluations provide “early warning” performance indicators for ongoing contracts.”

“We leverage interim reports to inform contractors of how well they are executing projects, and to encourage them to stay on schedule,” Stout said. “Final CCAS evaluations are very important to contractors, because the evaluations determine if the contractor will be considered for future projects. A contractor needs good evaluations if they are going to continue to get business from us.”

Giving contractors interim evaluations encourages them to take corrective action if they are not performing, Stout said. “It also keeps them from being surprised at the end of a contract — it is another element in creating an amicable business environment.”

“The district uses actual versus scheduled performance to pinpoint contractors who have repeated performance issues,” Davidson said. “Schedule management is the root of our management plan. If a contractor begins to show signs of failure, the district leadership gets involved.”

District personnel often must coach and mentor contractors, Stout said.

“Large contractors in the United States are very sophisticated about project scheduling and management,” he said. “Many of the contractors we work with here in Afghanistan don’t have the same skills. District quality assurance personnel and project managers have to spend more time helping contractors develop their capacity to look ahead and plan — to do network analysis that helps them develop their schedules and allocate resources, so they know when materials will arrive, and when to have their workforce in place to execute.”

The district has at times adjusted its own business practices to ensure contractors stay on track. “For example, some of our contractors did not have a lot of cash on hand. We started paying them every two weeks for placement, rather than once a month,” Stout said. “This allows them to make their payrolls, so they keep people working on their projects.”



Construction representative John Murner, middle left, Tony Oby, Kandahar Area Engineer, right, and contractor personnel inspect an Afghan national police facility under construction near Tarin Kowt. Engagement with contractors is an important element of the South District’s strategy to execute its program. (USACE photo/Mark Ray)

Preparing for the future

Even as the district hones its processes to ensure contractors complete projects, it is also preparing for the future.

“We don’t stop monitoring projects when construction is complete and we turn the facility over to the end user,” Stout said. “We want to ensure that the necessary documentation is complete and archived correctly — we are preparing now to be able to execute project closeout correctly in future. It is all a part of putting the right business practices in place.

“The district has created a close-out team to tackle all existing contracts and has established an efficient process to close contracts out within 60 days of construction completion,” said Davidson. “We also adapted this process to close out terminated contracts. We track contract close-out continuously. The dedicated close-out team reduces the administrative burden on construction personnel and allows them to focus on active projects.”

“We have made a lot of changes that improve efficiency,” Stout said. “The changes build capacity in our existing contractors and also attract more capable contractors to our projects, because they know if they perform, they will make money. Having more capable contractors allows the district to focus on correcting issues, which further improves placement and our ability to attract able contractors. We must continue to improve efficiency and effectiveness if we are going to complete our program on time.”

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USACE’s Afghanistan Engineer District-South provides design and construction services throughout southern Afghanistan to support the International Security Assistance Force and U.S. Forces-Afghanistan. The work is carried out in Regional Commands South, Southwest and West with the goal of achieving counterinsurgency effects and bolstering the Afghan Government’s services to its people.

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