



RECONSTRUCTION

Bechtel Speaks About Work in a War Zone

USAID's lead contractor soldiered on even as the security situation spiraled out of control

Excerpt from news story by Tom Sawyer and Andrew Wright, Engineering News-Record, 10/30/06, and transcript of interview, 10/18/2006, prepared by Tom Sawyer and Alisa Zeven. ENR interview participants were Jan Tuchman, editor-in-chief; Debra Rubin, senior editor; Tom Sawyer, associate editor; Andrew Wright, managing senior editor, enr.com; and Judy Schriener, editor-in-chief, construction.com.



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On the last day of October, Bechtel Corp.'s three-year, \$3.2-billion contracts to reconstruct critical infrastructure in Iraq expire. The company's few remaining personnel in Iraq are closing out operations and turning over operation and maintenance duties to Iraqis. A handful of executives who played key roles in Bechtel's Iraq Reconstruction Project sat down with ENR editors in New York to break their self-imposed silence on projects, discuss Bechtel's performance and share critical lessons learned.

Until now, Bechtel executives have largely remained silent on their work and the conditions in Iraq. The debriefing in New York City on Oct. 18 included Cliff G. Mumm, president of Bechtel Infrastructure Corp.; Michael Dodson, chief program manager; Donna Bonghi, manager of human resources on the project; and Drew Slaton, an onsite communications manager for the past year, and Michael G. Kidder, manager of public affairs, Bechtel Infrastructure Corp. Bonghi flew in from Kuwait for the debriefing. All had worked a year, and some considerably longer, for Bechtel in Iraq.

MUMM:

My name is Cliff MUMM. I was the original program manager when we mobilized on Iraq. I was there about two years. I still have, overall—within Bechtel in my current role as president of Bechtel Infrastructure—overall executive responsibility for Iraq.

As a group we are really happy to be here today. This is not a road show. We assembled this group specifically to come in and talk to ENR. We're not running all over. But one of the things that happens to us while we were in Iraq, is, because of security, and the general instability in the country is that we really took a very tight-lipped approach to things and that was driven, really not only to keep our projects secure, but also to keep the people who worked for us in Iraq, secure. So we just really didn't talk to the press, other than to occasionally defend ourselves.

As of Sept. 15, Mike Dodson, to my right, was the program manager, and he actually presided over us

finishing our work in Iraq and we are now out of Iraq...we have a few security people remaining in Iraq doing some turnover and they will be out, Mike?

DODSON:

Probably by the first of November.

MUMM:

We have a long cleanup period—not cleanup—close-out period that we go through now, documentation and all that, that we are going through it in Aman, Jordan, and Oak Ridge, here in The States. And in Kuwait. Maybe the right thing to do here is maybe start to my left and tell you who we are and what our parts were in Iraq.

SLATON:

My name is Drew Slaton. I served as the communications manager and external affairs manager in Iraq. I was there for approximately a year, just under, and recently have come out, 7 weeks ago, deployed here in the United States. I've been with Bechtel 16 years and have done similar type work in Rumania, China, and Singapore. Been overseas about nine years so it feels good to be back in the US. I have a wife and kids, and was really pleased to be over there and felt good about the experience.

BONGHI:

My name is Donna Bonghi. I am the HR manager for the project. I went to Iraq in March 2004, came out in September [2006]. I am now in Kuwait while we are going through job order closeout. I've been with Bechtel for 28

years. Prior to going to Iraq I was global HR manager for the construction organization. Iraq has been and incredible experience for me and we are all looking forward to sharing that with you today.

DODSON:

My name is Mike Dodson. I served for 37 years in the Army and have had quite a bit of experience overseas. I was down at CentCom for 2 1/2 to 3 years, then was in Europe, in Bosnia, retired, and was looking for something worthwhile to do and found a great company with the same kind of character that I had been used to in the Army. And I had an opportunity to go to Iraq to do some things I thought were meaningful and be around soldiers a little bit longer, selfishly. And I went in there in August 2004 and like Donna I came out in September [2006]. I have just a few people left and think we will have it all wrapped up.

(ENR introductions: Jan Tuchman, Andrew Wright, Tom Sawyer, Debra Rubin, Judy Schriener)

MUMM:

We had two contracts in Iraq, as you are aware. One of the controversies all along where people talked about sole-source awards and other things, and we have never managed to get that out of the press. It reminds me one time in Bechtel somebody changed my middle initial and it took me eight years to finally get it back to the right middle initial. I don't know how that happened, but once it was in the system it was just in there.

ENR:

What's right?

MUMM:

G.

About these two contracts, I am a little sensitive. Because we worked hard bidding these two contracts: Both of them. there was substantial competition. On the first contract there, I think, there were six bidders and we were chosen, and there were fewer bidders on the second contract, and we were chosen both times as the best qualified and best technically qualified and the lowest cost. That was a normal basis, and USAID has come out and made that statement a couple of times, but maybe it makes it a little less interesting that people actually competed for this, than if something kind of strange happened. But we did compete for these and they were awarded to us on a competitive basis.

The first contract, the Phase I contract, was originally \$680 million. When we mobilized into Iraq it was somewhere around \$30 million—that was all that had been funded for that first contract. And then later that first contract was amended with another \$300 million. Then we had a Phase II contract, which has ended up being about \$1.3 billion. So in total, with Phase 1 and Phase II, the two contracts were about \$3.2 billion plus dollars. And with that money we were asked to kind of cover the waterfront on infrastructure but with a particular emphasis in the early days on reconstructing war damage and also providing humanitarian relief. So we spent a lot of time working on that. The sector which we had nothing to do with and

haven't participated in at all, is the oil and gas sector. I think a lot of people get a little confused about that. But we were in the power sector and we were heavily in the water sector and in buildings and bridges and other things. The first thing we did when we got to Iraq, our assignment was to go through and make an assessment really of what it was like—and I am the only one of the group here...and Mike Kidder, that were in Iraq in those days and it was quite a heady time. We did try to buckle up at night, you know, button up, but the place was safe and welcoming and we went every place, north, south, east, west. We looked at every railroad station, we looked at every power station, water treatment plant, sewage treatment plant; looked at everything and came back and put together an assessment report on the areas of infrastructure, again, that we were responsible for. And our assessment report concluded, to bring Iraq back—into something that we in those days, for lack of a better term, we called Gulf Standard—I don't know really what that would be—certainly less than some other Gulf nations—but we thought, some working standard, we thought that the cost for our infrastructure, just to get it up to that first notch, to that standard, would be a little over \$15 billion dollars.

Against that we had \$680 million dollars, so we had to very carefully pick and choose what we would do in Iraq.

What we did was, we said we have \$680 million working with USAID, and said how could we best make that work? We worked a lot with Bremmer and USAID and then CPA, because we wanted what we were doing to support the overall mission that is the reconstruction effort,

and to be part of what was going to be going on, in general in Iraq.

There are two ways. One way is to just take some money and just sort of raise the ground level an inch and later people say, 'What was that?' But we said no, with USAID lets do important, significant things that will provide a platform not only for immediate humanitarian relief but a platform that the Iraqis can build on going forward and I think the best example, the first thing we did on the humanitarian side of course was go down and dredge the port of Um Qssar.

There was no war damage. Our assessment really found minimal war damage across country. The port had no war damage and had lot of damage from the old Iran/Iraq war and the port wasn't working except shallow boats coming up and down but wasn't really working as a port. So I guess the war damage we actually saw was limited to bridges, and of course the telephone exchange and things like that. But it was, at the time one of the things I thought was surprising, not having been around war before, was that—surgical is the wrong word—but I was surprised at how really precise the bombing had been. They didn't blow up a whole bridge, they went and took a section of the bridge out and so then you have to fix that, some cases for an engineer that's more difficult than building a new bridge, if it's a tension bridge or integrated structure. But nevertheless I do think they tried to limit damage. It wasn't just wholesale bombing.

We went through and did the port so that emergency food shipments could come in. We put in about 57 kilometers of new rail, which went from the port. We

renovated the grain silos at the port, which hadn't been used for years and years and years. And it was there that we actually learned how you clean an old grain silo, so if anyone comes to McGraw-Hill and asks how you clean this old rat-infested, bird-caca grain silo installation, what you do is you get some grain and you run it through and through and through and through and somehow screen the grain and what it actually does is sort of sandblast it. Comes out cleaner than if you wash it down. We learned a lot, we didn't know that. An Iraqi suggested we try that. We had one of the most interesting things happen to us at Um Qssar...Yassir...

BONGHI:

Yassir was one of our employees that actually had worked on a previous Bechtel project. I think about 25 years ago. He came to the project with his old Bechtel I.D. (yellowed) ready to go to work and of course he was hired in support of that project and did a terrific job and worked with us until this year. He's anxious for Bechtel to come back and I'm sure if it's not him it will be his children or grandchildren that will be anxious to join our company again.

ENR:

I think we reported on him in ENR back in 2003 when we first heard about that.

BONGHI:

You might have.

ENR:

You say you're out of Iraq. Is that because you finished your contract? But have you made a choice not to bid additional work there at this time and would you consider working there in the future?

MUMM:

Over the years we have some history in Iraq. Even during one of the early upsets in Iraq back in the 50s and 60s we had one of our chief executives executed, just picked up off the street, so we've had a long history in and out of Iraq.

When we went to Iraq we knew some things about Iraq. We made a conscious decision with USAID because they asked us and we looked at that frame of work and it looked like something that fit our company. It's hard to find companies—there's a few and then maybe a Corps of Engineers—that can really reach across such a long stretch of infrastructure segments, and it looked like it fit us.

We did have the opportunity later on to bid on other work and we made an intentional decision internally about two things, one is that we were not going to have two customers in Iraq. We were going to have one customer in Iraq and that was USAID. That was who we were working for and we thought that was how much involvement we could really do and do well, and we wanted it to be an integrated program and that was USAID had, as opposed to just going around and do this or do that. We wanted the program to make sense and have something to say about what that program was.

The second decision was we wouldn't mix funding streams. There was a lot of money rolling around Iraq, you've seen that in The Press, things that were found rolling around this warehouse, or that warehouse or wherever it was but we made a conscious decision that we would not work with that we would only work with USAID funds that were authorized by Congress, and that's exactly what we've done. We were very strict about that.

ENR:

What were other contractors inclined to bid on? Who were the clients?

MUMM:

Well, the whole thing when Nash came in and set up the PMO or PCO or whatever it was in those days, it was ORHA and the CPA days, we never participated in that. We actually declined being part of that. Not on any principle; the only principle being that we thought having one client in a given situation as probably the best way to go and avoided a lot of confusion—and in fact we still say that was absolutely the right decision.

DODSON:

I think in the early days you kind of had to figure out what is it that we can do best to make a contribution and that maybe that others can't do and others can do the other work while we're doing some of these projects, because as Cliff said, spread it all out like peanut butter you didn't really do much, so you have to do some things that are perhaps something to start the engine in Iraq. And then

toward the end, as you probably know, USAID really has no more projects that would suit us anyway. They are basically doing more nation-building, more traditional tasks for USAID right now. So, as the strengths have come down in some of those agencies, most of that work has migrated over to PCO/GRD, and they're managing all those kinds of things that we might have been interested in at one time.

MUMM:

We had 99 projects in Iraq with USAID. That is, separate projects within our program and we have completed 97 of those. Maybe, Mike you can talk about the ones that we didn't complete.

DODSON:

One of them was Sadr City. When you look at how, what I was saying in the beginning is, you have to figure out how you can best contribute and a company of this size obviously brings a large amount of weight to the project.

Now if all those projects finish at the same time then you've done something I think that is economically sound for the government. But if you've got a couple trailing off well past when our contract end date was, of 31 October, then it doesn't make quite so much sense. And that coupled with security requirements, number one was Sadr City water plant, and I think you all know the difficulties in Sadr City over time; we started off helping the 1st Calvary Division when they were having a lot of difficulties in early '05 trying to work their way through Sadr City and trying to get that back under control, and did a lot of work down there and it's basically gotten back to that same state. So

what we said, in conjunction with USAID is, this a good point to transition this kind of work to GRD who's gonna be there for the long term, because it wasn't gonna be finished.

We have the Sadr City plant at 88%, but the conditions got so bad that managers fled and then sub managers fled, so there was really no way to do the kind of work you have to do to ensure that you have a good product. So we said, 'what you ought to do is take this over, let it sit 'till you have the conditions right, and then start again because you're gonna be here for the longer term.

ENR:

When you say 88% completed, is that like a punch list?

DODSON:

There's still a little physical work to be done at Sadr City. A little construction work. At 88%, if you looked at it, you'd say there's all the buildings, and all the pipes, and all the pumps.

ENR:

The reason I ask is because when we look at the metrics of power, water, sewer, electricity, even oil flow, it's hard to detect a measure of success for the Iraqi people. And yet you had a task request and you can go down and check that's done, that's done, and that's done, but there's a disconnect. Are the people better off?

DODSON:

There's metrics, obviously, that are trying to be standardized right now, the IRMO has come up with those metrics, but there are a couple of tests: Is the power coming out of the plant? Is it reliable power? Is there water coming out? Is the water clean? Is your waste treatment plant operational, or is it in bypass, and how many people do you serve? So you can, the metrics are, how many cubic meters or how many gallons, or, it's more difficult to predict how many people you've served. What we've said with our metrics is about 7 million in water, about 7 or 8 million in wastewater and you say, that's a lot of people, but there are 23 million people in Iraq. But this is around Baghdad where conditions were pretty bad, a lot of people never had any clean water, they just had water that was, you've seen the picks of the water in the streets and things like that. So the metric really is in the water case how many cubic meters are coming out, and it is clean.

MUMM:

It's an interesting question though, it's a really interesting question. And what's interesting about the question is that you slid right along with the policy change.

Nobody ever said, while we were in Iraq, we just watched this kind of move in the U.S. But it started out the reconstruction was to fix up any war damage and to provide humanitarian relief. Then reconstruction became, build a platform upon which the Iraqis can go forward in a stable environment. And then suddenly it just sort of moved seamlessly to, provide electricity to all the houses, make kitchens work, things like that. And that, therein, people

went around and said, 'well I can't get power to my house. I can't do this, I can't do that.' That's more a failing, the power company comes in but the municipality hooks up the house, that's more a failing of the ministries themselves.

I think water is the best example. You have a limited amount of money, we spent about \$500 million in the end between the contracts on water, but in the early days we had a limited amount. When we got to Iraq there was a mass panic about cholera in the south, the Sweetwater Canal was full of sewage, just all the raw sewage in Baghdad—no Iraqis knew that there sewage treatment wasn't working and that it was all bypassed right to the river. Nobody knew that. That had been done for years; we think it was done intentionally by Saddam as kind of a campaign against the Shiia. It went down this Sweetwater Canal, which was about 270 klicks, this sort of syrup and then that, with only two lift stations, goes into this sort of sewage delta, which at the time was really that, literally sewage cake, about which this water streamed, this syrup, and then that was pumped out by two remaining pumps that worked there, and that provided the water supply for Basra and little kids were getting shistosomiasis.

So what we did rose way high above that. We didn't care so much at the time about kitchen sinks in Baghdad, what we said was you gotta get the water cleaned up. And people who were getting water before the war will get it from the same source afterwards, but lets get the water better.

The way we did that was as we said, if you take the sewage out in the north, then you'll automatically clean the sewage in the south. Second thing you can do is go down

and dredge out the Sweetwater Canal. Clean out the delta so you get some turgidity and not just this sort of laminar flow. You can oxygenate the water a little bit, get some more clean up. We did that and then we installed new lift pumps and repaired the ones that were there so suddenly we've got the water flowing again, cleaner than it was, and then we fixed the eight treatment plants that we could, that were already put in there before and that pretty much used up the initial amount of money. When we got second money we came in and started doing some other things, maybe Drew—you could talk about. The water program I think in particular, is important to sort of think about.

SLATON :

The rural water program is just a fantastic success story that I don't think there's been much coverage on. The rural water program has brought 70 small water treatment plants around Iraq and the purpose behind that is to provide clean drinking water to rural villages across the country. Now these small water treatment plants, they're set up with remote storage tanks, so there's approximately 500 of those remote storage sites...

ENR:

Define small in this context...

SLATER:

They're designed to support villages of approximately 5,000 people or less, so the total capacity of the whole program was about 30,000 cubic meters per day, between

the 70 sites and so each place, depended on the needs and the size of the villages,

MUMM:

What we do think that service is now?

SLATON :

Right now the target population to be serviced is almost 500,000 people, and these are people who never ever had clean drinking water, ever. So this is a fantastic program, so, of the technologies used—depending on whether you were getting surface water or you were getting subsurface water—the plants were set up accordingly. Been a fantastic success. But you don't hear much about it.

MUMM:

We have one picture here these little kids coming up with donkeys and filling up things and heading out. The interesting thing is just keeping the sewage treatment plants in Baghdad operating, it got so the death squads or whatever is going on there, you know as an engineer you look at the things. What we were seeing was that the plants were getting shut down just from a deluge of bodies that came in. How many total?

DODSON:

Over 200. This was at Rustamya north.

MUMM:

What they were doing was stuffing them down the sewer. Then they'd come in a shut the plant down.

What we finally did, and this is so horrifying, was end up having to construct sort of a shark cage and have people come down and gaff bodies out of there. But they've got these big vaults that go basically up into Sadr City and then run down into Rustamaya, its probably about 6 or 7, 8 kilometers up there, typical fold opening...big metal doors that flop back. these were two or three feet off the ground, Most of the doors were missing. It's a very convenient place for people at night to dump the bodies, so we went and worked with the military and showed them.

It became a real issue when the bodies started showing up in this kind of quantity. We worked with the military and told them what we'd seen and gave them our network drawings so they were able to go back upstream and kind of figure out who might be doing this and where the bodies were actually entering and it got shut off. It took a while, but it finally got taken care of.

MUMMM:

This is the sort of thing that suddenly you're an engineer, and of course as an engineer you try to work your way around these things. I was thinking about it driving home one night in Maryland, 'cuz I had just been talking to Mike and Donna about this, because some of the guys that were participating in this were shook up and I thought, gosh, what a thing? What a thing? Who would think, you know, sitting in school some place that you would have to do a smart thing to figure out how to keep a sewage treatment running, but for the bodies, and then that you'd have to have your HR person set up a counseling thing because people were so...

BONGHI:

Depressed.

ENR:

Your employees had to remove these bodies?

DODSON:

Staff at the plant. Employees were there watching them.

ENR:

This was 2005?

DODSON:

Yes, and on into 6.

ENR:

It kind of becomes an indicator of a deteriorating security situation.

MUMM:

Well, the security situation, we measured the security as just incidents per day, and if you look at the curve—we can give that to you—its in the package we gave you—if you look at that, it goes right up like that. So from those early days, what we found, you know, another thing about engineering is, if you tell me this is constant and this is constant, and here, this is the level of insecurity you'll have—Algeria, this is how insecure it is generally, and that's kind of constant—then we can figure out, working a

well-engineered security program, and the scope of work, we can figure out how to do it because we know how to design. But if every day you go out there and it's changed and it's changed and it's changed, it forces you, and this is ultimately the issue about security, it forces you to go to the most prudent case; kind of a maximum what's gonna happen, and kind of hold that constant—which is significant.

ENR:

The hand motions that our audio audience couldn't see were that you were indicating the problems were getting worse and worse and worse.

MUMM:

Yes. Dramatically.

DODSON:

If you just kind of drew a graph like you did in school and started down in the lower left-hand corner and just continued, it might have had plateaus, but there's no doubt about the rise as it went off to the right. We had an interesting chart that we had Drew and some others developed that had the incidents plotted on there and then some little marks along the way to tell some particular incidents that had caused a spike, and so on, and then what our reaction to that was.

So, as Cliff said, in the beginning, when you came in, you kind of got in your 4-wheel-drive truck, and you were able to go all over Iraq and do the assessment piece, things got a little more dangerous, so then we hired some security

groups to take care of us. They were armed and then we got armored vehicles and as the IEDs and things like that began to get worse and worse, then we decided, well our biggest vulnerability is on the highways, so lets see about putting camps on these big power plants so people don't have to travel.

MUMM:

There were 17 forward camps at one time.

DODSON:

So then you'd build the camp on the plant. You put up the barrier wall. Those of you who've been to Baghdad have seen the concrete barriers just grow and grow and grow, the sand HESCO barriers, and the gate guards, the perimeter guards and all that business. And when you go out to do site work, gradually over time that became denied to us as well because it just became too dangerous to put our engineers on the road every day to go out and supervise. So as Donna can tell you in a minute, the training that we had done with our Iraqi personnel in the beginning really paid big dividends, because they became the eyes. In other words, they went out to the site and they were able to travel in their little cars in so on in kind of an unobserved manner.

They took pictures, they called us on cell phones, an engineer back in the office directing all of that, and it was quite an experience for our own engineers as well as a real growth opportunity for the Iraqi engineers. And that really got us through that last piece where it would have been very dangerous to put our people on the road. So you can

kind of see, as the incidents went up, we had to take measures to make sure everyone was safe, because that was a promise we made to everybody.

MUMM:

That was an important thing and one difference, and I can say that this is a big differentiating thing in Iraq for us, is that we brought our own people. We didn't go out and recruit, we didn't hire specifically for Iraq, we didn't do any of that. People that came over there were 10, 15, 25 year veterans that have been all over the world and they were from all over the world. So the team that I led into Iraq largely, in the early days, handpicked by me, and then handpicked on down, that team were all Bechtel career employees. Others just body shopped that and that is a differentiator, so we had a contract with a family company, we had another contract, a covenant, with our people, to keep them safe.

One lesson learned was that we really had to manage that, besides making them feel assured, we had to help them make their families feel comfortable with that. We had a website...

BONGHI:

We had what we called our friends and family program. We had an 800 number that we constantly kept updated any time there was an incident so families could call in. And we had numbers set up for different regions around the world so they could call locally depending on what region they were in. We actually did have on our Bechtel staff, we had 28 nationalities working on our

project, so it wasn't just American component, even though 80% of the people on the project were Americans as far as the Bechtel staff goes. And that applied also to our security provider, our teaming partner. We also had an outreach that the employees could give us e-mail addresses of their families and friends so that we could send e-mail communications to alleviate their mind every time they were watching the news back home and seeing incident after incident after incident, so we tried to help them manage the families and the communications and that seemed to be very effective.

MUMM:

It was always a frustration in Iraq, and this is not a whine, so I don't want it to sound like that, but one of the things we all discovered early on was that while incidents were reported as they happened in Iraq, how they were reported by major media in the U.S. was different than how things happened in Iraq. That is the importance of this incident and how it leads to this and how it leads to that was a construct. Now I believe, in many cases, I believe the incidents themselves, I think those were always accurate, but if a mortar landed near one of our camps it was reported on CNN. We knew within 5 minutes where it hit what the damage was, we knew. You knew when you were in Iraq. But it might take hours for CNN to do anything.

ENR:

This thing was rife with politics, always has been, and how much did the politics of being in Iraq interfere with

everything you did, in terms of reporting and how it characterized, and how frustrating was that?

DODSON:

It's always a little difficult, I mean, I think it's about the same for us as it is for the soldiers. You know you're doing things, things are happening, water is being produced, power is being produced, schools are open, but the thing that gets the headline is, another round has fallen in the International Zone. That's what, you know, when that happens it's so vague that that's why Donna had this hotline, 'cuz people just don't know and then they wonder about the person that they love being in the International Zone because they don't have any more description.

ENR:

Did you lose people there?

MUMM:

We did, we actually, we don't like to talk about this a lot because we don't want it to become a statistic and we know those that we lost and we're pretty emotional about it. In total there were 101 casualties associated with our work, and of those, 52 died.

ENR:

Were they Bechtel security support people?

MUMM:

Some of them were security support, some of them were subcontractors. Some of them, a number of them were

Iraqis. We had a large number kidnapped, all of those sort of things.

I think of the interesting things is the Basra Hospital alone because everyone likes to talk about the Basra Hospital there's so much confusion and thank you for some of the clarifications that you made, we appreciate that. But the Basra Hospital alone, while we tried to do the civil work, it became very clear that that hospital was going to take a very long time. In the beginning our site security guy was assassinated, and after our site security guy our site manager was chased off with a death threat, and then the site engineer's daughter was kidnapped and he was told to get to get out of there or she was dead, he left. Then they took 12 people from our electric/mechanical contractor and systematically executed them. And then one day, one day, and this is Mafia, you just don't really know why this stuff happens, but one day 11 people were marched out from our concrete supplier and stood out in front of a building and executed. And that was 24 dead people, just trying to get the civil work done. So the security at Basra just went terrible.

There's still a state of emergency there from the early days when Basra was relatively safe, its just a mad house there now and our security cost there estimate has gone from about \$13 million to about \$48 million. We haven't spent that, we did not spend it, we haven't even spent the \$50 million yet that was originally appropriated. What we did was we came back and we said 'look if you're gonna finish this its gonna cost about \$98 million' and we gave them a breakdown of why that would be. We said to date, we're focused on finishing the civil so this thing can be a

stable place. And then its for others to decide, USAID or the Iraqi mission, whether you leave that for some more stable time as in Sadr City, or whether you spend more money. But the question has to be answered, how much blood and how much money is that 96-bed hospital worth? There's already 24 dead people right around that thing, so we get intolerably insensitive about the risk we took with our people to get that thing stabilized and in a position where its not lootable.

DODSON:

And you probably know that Basra has a completely different character than Baghdad. Basra is more militia oriented, militia against militia, more mafia style activities and when Cliff described these kind of executions, the unfortunate thing was that in each of those cases there were about 3 or 4 others who were of the other ethnic persuasion that were let go. So it sent quite a chilling statement to those who were on the wrong side of ethnicity, and this was really the big issue down in Basra, trying to get a stable workforce when these kinds of signals were being sent to those who weren't Shiia.

ENR:

It's in all of our minds of course, what would happen, is it the U.S. presence there that's really destabilizing things? If we did pull out our troops in some safe manner, would things kind of go back into more of an equilibrium?

MUMM:

You know, I would love for you to buy me dinner some night and we would love have a chat about that. Policy is really for others. I think what our mission here is, what we'd like people to know, is that of the 99 projects that we said would do that were carefully thought out in this assessment program, we've completed 97 and we've left the other two in very stable condition, and really, the reason we weren't able to finish those, is like the Basra Children's' Hospital, its impossible.

DODSON:

And like we said for Sadr City, when you are looking at 31 October as kind of the end date for your contract, you know that you're not gonna be done so what we did do was put in all the concrete work and a good amount of block work. So that one is about 45% complete over all, and when you look at it, you say, well, there's a nice building.

MUMM:

It is nice. Concrete, piled...

ENR: (needs cleanup)

In terms of that part of the world, how are you looking at the Middle East now? This is a difficult area but its not the only one now, there's tension everywhere. How has your presence and profile in Iraq affected your other work in that part of the world? You're years of building an excellent reputation...

MUMM:

There's a security element now that's become part of our core business in many parts of the world. It was always there but it's a larger issue and I guess what I would tell you is that we don't outsource that, we manage that ourselves and we manage the program ourselves. We hire gate guards, we somehow contract that but we do manage the program ourselves because we have to keep this covenant with our employees. It hasn't stopped interest in us doing work in other parts of the world, but we do consider very carefully the level of security or insecurity. It is troubling.

DODSON:

I think one of the advantages is that when we started off we were very low key, we did that for a couple reasons, just because that's the way the company has always been and because what we didn't want to do was draw attention to a particular project that someone could make a case for. In other words if you build something and declare you are you're gonna have a grand opening, someone will try to spoil that.

MUMM:

And they did, too.

DODSON:

So to the degree you kind of stay out of the headlines it helps you in other parts of the world because nobody then wants to make an issue out of your.....

ENR:

Is that part of the problem with the Basra Children's Hospital? That it was used for photo ops for Mrs. Bush and others?

DODSON:

My impression is that could have had very small part, but by and large this is just thugery and thievery down there.

ENR:

You spoke of tracking incidents as steady rising curve. Do attacks on rehabilitated infrastructure follow that same curve, or less?

DODSON:

No, attacks on infrastructure tend to be different. Water plants almost never get attacked.... (we had a couple of cases of the project that we did not work on which was the Karkh water treatment plant north of Baghdad which had some damaged valves that actually interrupted the flow of water to Baghdad, because that's the main source of water, but by and large they do things that are more easily assailable. And it continues. You see it now, you see power towers being taken down, you see oil lines that are remote being blown up...so as quickly as they repair an oil line another one gets severed.

MUMM:

Which leads kind of nicely to the whole issue of power. There is greater capacity now in Iraq. In other words the power that is actually produced—and I am

differentiating between capacity, that is the power is sitting around available to be produced, versus that is producing—the availability and stability of the power supply right now has been improved substantially so that those megawatts that are on line, stay online in a more steady way.

The other power, the capacity, could be online, but I guess the best word to describe it is stranded.

DODSON:

When you look at this you kind of tick down where the power comes from. A little bit from hydro, but because the water level is down, the hydro production is down.

You get a little bit from Iran, a little bit more from Turkey, imported power. And then you are talking about diesel, gas turbine and from heavier fuels.

So when these pipelines get interrupted, or you have a diesel shortage, or as I said when you have a decrease in water flow, all that capacity becomes what we call stranded. You can't put it on the grid. A big part of that is a shortage of diesel, these plants that run diesel generators cannot produce power.

Then you've got the whole management of the grid. The grid in the United States we take it for granted, yet when something happens perhaps in the Northeast you get this kind of rolling blackout/brownout kind of thing. You can imagine in Iraq with the state of repairs and the wires and substations and things like that...then you have obviously operators that are trying to control where the power is going at a particular time or on a particular day—obviously if you want the hospital to have power or the ministry buildings to have power some neighborhoods

probably aren't going to have power, so you get these period where you have one hour on, four hours off. Two hours on, three hours off and just it goes in these kind of cycles.

In the summer of '05 is when we were all trying to accelerate to take care of this summer heat issue, so we raced to get substations in place.

As Cliff said, you get the power plant built, then you have to depend on somebody to have the substation and the power lines and then the lines going into the house and those kind of thing. So we built 25 substations, and 12 of the additional 12 substations, we could not get the subcontractors to go there because it was too dangerous. So 12 of those substations were turned over to the ministries for a total of 37. We got the vast majority of them done in the summertime.

SLATON:

And to compound all of this you have the huge escalation of consumer demand.

MUMM:

It's just screaming.

SLATON:

They could suddenly buy consumer goods they previously had no access to. And at least in the beginning there were zero customs duties on them so imported goods were just flooding in into the country.

MUMM:

Another thing that was interesting about power was that when we first got there in 2003, and I know this story has already been told, but its important to understand it, in those days Basra was getting about 2 to 4 hours a day of power.

Saddam and the people in power took very good care of the capital so it was getting 18 to 22 hours a day, and after the war, after the conflict, a lot of the transmission capacity was torn down in the south by folks looting it and doing other things, but they also left notes to stop sending it north. It sort of got, what would you call it... sort of a...a grassroots, democratically redistributed it. They tore down the distribution and Basra actually was up to, something, for a while, 24 hours, and then 12 hours a day and Baghdad was on rolling threes.

But of course the news media only comes to Baghdad and they hear everything about “well, before we had this, and now we only have this.’ And of course all that’s true, but if you went to Basra, and could find somebody who would talk...but the other thing that happens is for awhile everybody is saying ‘how come my light bulb doesn’t work’— and this is kind of the movement we were talking about, the policy shift—‘how come my light bulb doesn't work and how come my heater doesn’t work in the winter and then, that’s where it gets ...its sort of, how come my air conditioner doesn’t work and this isn’t wired up and that isn’t wired up and you just move, and you get up to the platform and then it’s a new platform and its sort of seamless how everybody goes along with it. The demand curve though in Iraq is just screaming ahead of supply.

ENR:

Is demand pulling supply?

MUMM:

It will pull supply. The problem of course, it's not so much capacity to generate, it's the ability to fuel and distribute that power onto the grid...and communications, as you know, you can't just throw things onto a grid and take thing off of a grid. There is a whole kind of science on that that I don't understand exactly.

ENR:

Are they getting revenue?

DODSON:

That's an issue. There was supposed to be revenue from a couple of places, primarily oil, so if you were counting on getting three-and-a-half million barrels a day, that metric then yields a lot of disposable funding for programs. If you are getting 2.2 or whatever it is right now, that's something quite different. There is also no mechanism to go collect the utility bill from the people. It just can't be done.

MUMM:

You'd get shot.

DODSON:

So when you think of this in western terms, how do I pay for the utilities? How do I make people to behave in

energy usage? there are none of those kinds of mechanisms that we have here, so as a result, not having revenue, not having controls, make it very, very difficult to kind of pull this capacity issue forward.

ENR:

Are we trying to fix something that essentially not fixable?

MUMM:

No, it's fixable.

DODSON:

It's a little bit like Russia in that. It's not a concept with which they are familiar. So you have to build the thing down at the bottom and kind of build the structure.

MUMM:

They were under sanctions for a long time so, over the decades of the Saddam period they lost what we would call institutional strength. That is, here we have a power company with processes and procedures and people who understand how to do it and the correct way of doing things and handling spare parts, how to operate a plant and how to do repairs, and having summer and winter outages and maintenance approach and all of those things...And there, there was none of that. They just tried to keep these things running like a jalopy or something would happen to them. For that reason they were driven to hog spare parts and not distribute those around, and the ministry itself had no idea

you know. It was kind of thugery in that period,...It was all some part of the general lootocracy that was Iraq then.

So you have to rebuild all of that, then get all the incentives right for the employees and then teach the employees, at the same time, how to run the plant. So we went through—how many hours Drew did we spend on this institutional strengthening?

SLATON :

In power sector alone more than 90,000 hours went into teaching how to run a plant.

ENR:

So when you leave they can run your substations, your water plants?

SLATON:

Operations and maintenance, procurement, inventory management...

ENR:

Are you confident now that what you have accomplished will be run properly and maintained?

MUMM:

Water is a good example there. What happens is, we taught, and I am absolutely confident that we went through it, again and again and again made sure...Mike has the analogy...

DODSON:

You just teach them, and teach them and finally you get them to get it...

The ingredient I'd like to get back to that Cliff was talking about earlier is, what is the value you have in mind with one of these plants. The value should be that I am producing water or producing power reliably over time, therefore I want repair parts to come in time and I want to compensate my people and I want motivate them to make sure that the plant continues to operate. So the training, you are trying to motivate people to have the right outlook about their plant at the same time you are trying to train them in the technical part of this.

And you then you have people who heretofore operated the plant that had this kind of an outlook, as Cliff said, for decades now, have been kind of devalued. Their job was simply, if water came in and water came out nobody the wiser you could fill up the Sweetwater canal with effluent.

It's the value part of this that really needs the work and we have done several things with the training. I think we are very confident those people have the technical skills. When conditions begin to change in Iraq these people will be ready to go. They will be seed corn for the future for Iraq.

ENR:

Can it hold until conditions do change? Or is it going to backslide?

DODSEN:

It's a matter of time.

MUMM:

I think it's a matter of time. These folks that Donna can talk about...I would like to move. I would like to talk about the people we've got there and talk about the Iraqis a little bit.

ENR:

You talk about the things you accomplished, and yet I am not sure that's the perception on Capital Hill. You just went through a tough hearing. The press has said Halliburton, Brown & Root, KBR. Are they looking at how our firms are doing? The questions you were asked, the way the hearings went, Parsons had a pretty tough time, I guess you fared better...

MUMM:

We fared fine in the end. The truth will come out.

ENR:

What are they looking for? Or is it all tied to the election in a few weeks?

MUMM:

Iraq is a very unpopular thing. Without even commenting on it, it's a very unpopular thing, that's obvious, and I think everything gets swept along with it. Within that, the 97 things we did, we did in a way that was, good quality, well thought-out and made systemic sense. That is, we didn't build a power plant when we didn't go look for a fuel supply, and that happened all over Iraq, but

we didn't do that. We didn't do something about water supply if we didn't have waste treatment, water treatment capacity. we went through... you know Infrastructure is all hooked together.

For a while in Iraq people must have gone to the Lion King here in New York on R&Rs because everyone was talking about "the circle of life." That just swept through CPA. But I was sort of happy, after I got over my indigenous cynicism, I was sort of happy it did because, unlike you folks that speak our language, most of the people in that circumstance really did not understand that water is related to power and fuel is related to power and power is related to water and it all just turns into one great big thing.

...So going back to your question, 'is it all a ruse?...' It has to be kind of like that corporate game where you all sit down and link elbows...we did that with a client once spring his knee and we didn't get any more work so we stopped it... and they all hold on like that and then they all have to stand up at once and help each other, and basically that's what has to happen.

You can't bring the power sector up without bringing the petroleum sector up, and you can't bring either sector up if you don't have the ministries with the institutional strength and the process and procedures in one to support the other, and can't do either of those unless you have the water business up, so it all has to kind of work its way up. You can't just shoot a place that was so decrepit as Iraq into the 21st Century in a few years. I think they've got probably a 20-year building program there to get to some place like the rest of the Gulf.

Would you agree with that, given your tours over there?

ENR:

People are awfully impatient to see this turn around. Nothing is going to happen fast. It's hard to imagine Iraq, and how many miles away is Dubai, where they are building the tallest buildings, the Las Vegas of the Middle East...

DODSON:

Even when you go away on a short trip, such as from Basra to Kuwait, you step over the border and all of a sudden you are in something that is near normal.

MUMM:

People never really knew. I wish we would have done a better job of that, I wish in the early days in talking about the state of infrastructure in Iraq so everybody was aware that this place was falling apart. It was creaking to a halt.

ENR:

Does Congress understand what you have accomplished, what you haven't accomplished, how things went over there how things were managed over there?

MUMM:

I think, in the end, we are careful about coming out of this. We did have a systematic approach and the things we did were right and they really can't point, any place else, nobody can, say 'Oh, well, somebody else did this or

somebody else did that.’ Our program, in its entirety, is probably the one that you can point to. It probably is the model.

DODSON:

And USAID was four-square.

ENR:

They had some issues too. They are not crystal clear.

MUMM:

They are a good client. The good thing about USAID...I think they are kind of accounting issues.... at the end of the day USAID was there, they didn’t switch people out every three months. They came, they stayed for a year, they stayed for a year-and-a-half. They were there every day, the bombs dropped on them. They were constant; they were a real solid customer. They learned a lot from us. We learned a lot from each other. Institutional strengthening is something that they really know and they pushed on us. And we taught them a lot about infrastructure that I don’t think they knew before. It was a good match.

DODSON:

To maybe get a little bit at your question without getting into the politics of it, the FAR in the war zone—Federal Acquisition Regulations—if you go into something with a reputation for always trying to do the right thing and follow the regulations, you stand yourself in pretty good stead through the course of it. People can come and look, and they ought to come and look...

Because we started early and had this initial \$680 million and were doing some of these more high profile projects, we were kind of like a snowplow. That is we ran into these issues well ahead of most others and we were intent on following the letter unless somebody said, no, lets do it a different way, so just to go one level up here, you would say, 'why aren't you going faster' and then the person on other side says, well, 'what are you doing with all that money? Who's accounting for it?' So this balance of FAR in the war zone is much like trying to figure out for the Dept. of Defense, contractors on the battlefields. What are the rules? Are they going to be the same as they are in Oklahoma? Or should there be something special...still with all the accounting principals in mind, but perhaps refocused, reshaped to take account of the conditions you encounter, because after all, if you are go to make an impact, you've got to do it quick." If you are going to take 6 months to do something and you are following all the rules then you've got...

ENR:

Will this experience change these rules?

DODSON:

I think this is one of the SIGR's [Special Inspector General for Iraq Reconstruction, Stuart Bowen's] charters. You can look at this a couple of different ways, you can say 'here is this guy out there trying to dig things up, but honestly, if he comes up with some great ideas about how to make things better if we ever have to do this again, that's great!

MUMM:

The idea of having a certified accounting system, a FAR certified accounting system with the Iraq supply chain... it's an impossibility.

Show do you do it? You go lump sum with the Iraqis, which means then you have to go with an Iraqi contractor, which means then you have to do a huge scoping exercise to get a lump sum because every change you do under FAR has to be competitively bid. If they don't have a certified accounting system, so you have to somehow preclude all the changes.

We just, in the face of that, we just did miracles, and so far, so far, we have stayed within the confines of FAR and we've passed muster. I think that's important. Back to your question, 'does anybody recognize what you did?'

I think in private people will say yes, this was a good program. But in general, it was a good program in support of a cause that's not very popular anymore. So nobody is going to say, 'gee whiz, you guys really did good.'

ENR:

Most of the criticism, fair or unfair, about the contractors in Iraq pretty much centers on three main firms, Bechtel, Halliburton/KBR and Parson. You touched on it before, about you brought your own people, how would you differentiate yourselves there.

MUMM:

I would go to the criticism. The criticism of Bechtel, consistently, the criticism has been “that you had a no bid contract.” I haven’t heard any other criticism until this Basra Hospital, which I think was a misunderstanding. There was a bit that came up at the time of the schools, because I don’t think that program was understood very well in its entirety. We did about 1,200 of those schools out of about 5,000 that were done. But nobody has come and said ‘you did terrible on the water, or you did terrible on the power, or you did terrible here and didn’t do this, or you misspent the money, or you were crooked or you hired people...’ Gosh, we built the supply chain in Iraq. At the end of it, I think there is no criticism that’s very well defined. I think it just was convenient to say ‘Bechtel/KBR.’

I remember on the Jubilee Line in London, the phrase that got adopted there was ‘the behind-schedule-over-budget Jubilee line.’ And it didn’t matter what you did, every time they said the Jubilee Line...and I saw it again the last time I was over there, all these years later from the millennium, and they said that was ‘the behind-schedule-over-budget Jubilee line.’ We of course rescued that, but at the time, that just stuck with it forever and I think that is how it always will be.

ENR:

Do you think Parsons problems may be related to the corps management? There has been criticism of that and you obviously stayed away from them, for whatever reasons, maybe perhaps related to that?

DODSON:

Parsons was really one of our partners for water, but it was completely separate from these other things. Cliff made the point at the beginning is, we weren't in oil and gas. And I think what he said was that exactly right, and that is when someone wants to talk about the big firms, they write down the names of the big firms and then you all get painted with the same brush, but we all did different things—vastly different things.

ENR:

The inspector general did come up with specific examples of construction defects...

MUMM:

Not with us...

ENR:

On some of these other cases, but, why is that? Parsons is a quality firm. Why would that happen?

MUMM

I don't know about Parsons, but I can tell you the work that we did was quality and the way we ensured that quality is that we brought career experience with a Bechtel culture...when you hang around Bechtel for awhile it's a little like a submarine; we know each other and we know who does this and we know what's expected and we sort of do that. And I think Donna here can talk about the training program with the Iraqis.

BONGHI:

I know its already been discussed but we had an extensive institutional strengthening program; not just training the local professionals, but also ministerial personnel and plant operators went into this sustainability programs that were part of the a long-term systemic approach that the company took with the intent of seeing that what we left behind was able to sustain itself. Early on we saw that it wasn't happening, which is why we pumped up that program and bootstrapped the ministries as well as the operators and the local staff. Our local staff, though were the ones that were out there with the plant and we had to teach them how to do it. How to sustain it, and that You just can't turn a plant on and off.

They weren't used to 24-hour operations. They wanted to go home. They just went home and shut down the plant. You just and shut down a plant down and then just flip a switch and bring it back up. There's a sequence of events that has to take place in order for that to happen not damage the plant long term. And so that whole program, that was all part of the teaching, teaching them a different way to look at, and value, operations and sustainability.

DODSON:

If you looked in two areas perhaps; safety and quality control/quality assurance, and you saw the Iraqi employees in those two disciplines, and you saw where we started with Iraqi subcontractors showing up without hardhats, without goggles, with open-toed or sandals on, and you saw where we ended up, was with a remarkable program, even by U.S. standards, with these employees who were intent on having

a quality product, where you end up with an Iraqi employee—our Iraqi employee—on the site saying ‘that is not right,’ saying ‘do that again, or do that in a different way’ and actually enforcing a standard that people, heretofore, just had not been used to doing. That was the value of that.

When Donna still sends me still these letters from people who have been placed, and some others, they make you cry. Here are people who were struggling to keep their families and their own life together and they’ve got a new opportunities and they are standing with linked arms, you know, in London and they are standing with their pals and they look wonderful. They guys that made the difference, these are the guys that really made things go. And this having the culture of Bechtel then affected all of those guys who were around us. All 400 of them.

MUMM:

We were targeting. We didn’t take work that just said go do this or go do that work and training Everything we did with USAID we did in a systemic way. You have to look at the water system in its entirety what’s the point of fixing a water plant if you don’t have a supply? What’s the point of doing a dumb thing like that? Everything hooks back... and I hate it...to “the circle of life.”

ENR:

What happens if we invade North Korea?

MUMM:

Are we going to?

I think you know what they found in Iraq was a little like what they found in when the Iron Curtain fell and they went into East Germany, remember that? And they said, 'Oh my god, there's suds in the rivers, it was a filthy mess.' Of course the Germans had the cash to go fix it up, but at the time, the place was a disaster. It was creaking to a halt, and I don't think people understood that. But in terms of differentiating, I think we went over and not trying to differentiate, but ...

What we did will stand the test of time. whether it continues to operate will depend on whether the Iraqis are able to build within their ministries the rigor that's going to be necessary, or whether its going to be some other system, and that I think is what's still up for grabs.

ENR:

They fired the two top guys for security a few days ago...

MUMM

I think they are on about their fourth ministry of electricity.

ENR

What advice would you have for project management and oversight for USAID and if you were also in a position to interface somewhat with the Army Corps of Engineers?

MUMM

I think you have to...my advice, and others can have a go at this, but I think you have to go local and go deep. We do that sort of a matter of course in that part of the world. I think you have to we used the local supply chain, which we did, although in many cases it didn't exist and we had to go create it and find it and do what you have to in order to get a supply chain hooked together and operating. You have to use local experience and you have to understand the cultural mix. Going local is important.

The other thing is in a situation like this I couldn't overemphasize this whole issue of institutional strength. Before you do anything, you have to make sure that it's going to sustain afterwards. It's not just how you build things, that's one thing, but that they are going to have the right incentives, the right employees, the right process and procedures to keep it operating? Otherwise it just falls back into the state of disrepair that it got let go in the first place.

You might have some others, Mike...

DODSON:

I guess one would be to make sure you have all the nation-building tools in quantity available, so when you come into the country you can put people in the ministry of education, the ministry of interior, the ministry of electricity, and these down in some of the municipalities so you can teach and coach over time, so they kind of start to grasp not only the techniques, but the value systems that make all this operate.

And then I would also say that this whole business of having a system of management that brings together the security and the reconstruction effort is important. Maybe

having one principle manager for all of that, because I know we had USAID and PCO and now it's merged into basically PCO/GRD. This is probably for the future as DOD and others attempt to figure out what they are going to do the next time. This is going to be an issue for them.

ENR:

What is the near future, the fiscal 07 contracting. Is it clear what's go to happen with work to us firms?

DODSON:

No. Not to me.

MUMM:

It's not at all clear. It's not clear to us.

ENR:

Are you done?

MUMM:

We said what we were going to do. We did it, and now we're out to tell you what we did and we're done.

DODSON:

And I think the nature of the work probably now is different. I don't think it's suited to something we would do now.

MUMM:

We're engineers. That was one thing. We're not used to going in and...

ENR:

How was it as a business decision, by the way. Did you make a profit?

MUMM:

Certainly we made a profit. We met our own expectations and all that. This was a very, very, very difficult assignment and we didn't want to... you know we wanted to complete and make sure we did that. It was kind of heart wrenching for people because we got so connected... You just much want everything, you want it to go right. You just want it to go right.

I think when you go into something like this, and I think this is what Mike was saying, you know you have to have the reconstruction effort tied to the overall objective; the political objective, or military objectives, or military/political objective—whatever you are trying to do.

I think that would be a good way to manage the aftermath of a conflict like this, and you say, here's what we are going to do at the top and we want this and this and this to all support that, and you have kind of a laid-out pyramid and everybody goes and does their part in a well coordinated way.

ENR:

Going into this event we were told that was exactly the situation; we were well prepared with reconstruction and it was going to flow right in, all was well. Measured against the standard that Mike was laying of how we ought to go

into it if it we do it again, how, on a scale of 1-to-10, how were we set up for this going into this one?

MUMM:

Mike, you should ask Mr. Sawyer where he thinks we are on a scale of 1 to 10, since he has been all over there.

DODSON:

That again is one of those things if we had dinner together I would be glad to talk about at some length, it's really kind of difficult for us to put our finger on that one, it's so controversial. Everyone has some ideas and we have ours. But, it's probably best that we do that in another way.

MUMM:

If you would like to do that some night and you can buy dinner and we will get Jock Covey and a number of us here and we will all come and we will tell you what we think.

DODSON:

Back on your point just a minute, what's the value to the company? If you get beyond the dollars and you were to survey all the people who worked there, my own perspective is that each and every one of them has grown tremendously. More than you would of any other one or two your assignment anywhere else on any other project you were about to do. It has been a broadening and deepening experience for all of them and in that regard it strengthens the whole company. I think it has motivated each and every employee. Everybody is invested in this

thing and everybody feels badly that we couldn't do exactly what we wanted to do all way to the end, but everybody is very proud of the contribution they made.

ENR:

I know the hardest part of it must be the people you lost...

MUMM:

The people we lost and the people that we leave behind. there is a whole cadre of 600 people

BONGHI:

We had over 600 people. We peaked at 479. We had ten of those people work for us for over three years, and if you break it out between less than 1 year, one to two years and over two years it's almost an equal split. Which says a lot about that workforce. These are local Iraqis and it says a lot about that workforce because what they have to endure to come to work every day is something that you can't begin to imagine, because of the safety and security and the risk not only for themselves, but their families as well.

MUMM:

What was the gender mix?

BONGHI:

We had 12% female.

DODSON:

When you looked, Donna has just done a terrific job of working with managers across the company to hire some of these Iraqis, and I guess we've placed 40 or something?

BONGHI:

Forty-one, firm, to date on other Bechtel projects around the world.

DODSON:

And then internally, before we left, we worked with other corporations in there, and said—in fact they came to us and said 'have you got some employees?' because they knew that our guys were well qualified, well trained, so we, I don't know what the number is, but it is a very high number of people who worked for us that then were looking for other work and then we were able to place with somebody immediately.

BONGHI:

They don't have any problem getting a job with our experience on their resumes

ENR:

Do they tend to stay in the private sector or are they going into the ministries?

BONGHI:

There's a mixed bag.

MUMM:

I am just absolutely positive that when Iraq stabilizes—and I take a very long view of that and a hopeful view— I am positive we will go in there someday and as mike called them, seed corn, I am just sure those folks will be showing up.... so I think we helped. I think we did something very, very helpful for Iraq.

ENR:

Do you think you will go back to one country or three?

MUMM:

Is that dinner conversation? I don't know. That's something we endlessly speculated on as you guys must have. I don't have any real insight into that.

DODSON:

The only thing that, operationally, we had to contend with, was when you hired somebody to do something, that person that you hired had to be very cognizant of where he was working. If he was a Turkish contractor there were some places he was welcome and some that were tough. If he was predominantly Sunni there were some places he could work and other places he either wouldn't work or they made it very difficult for him to work. There's always been tension. And we were mindful of that so on an operational level we had to take account of it.

ENR:

...You said go local, go deep, work with the institutional framework. How much of a problem was it

working in a context of Bremmer's de-Baathification program, where he basically dismantled the university system, and a lot of people who had been active in government in the Baath Party?

MUMM:

I guess I would say something about that, although I think its slightly...I think what you are seeing is a come back now. You will see that. I wouldn't necessarily label that as Bremmer's. There was a lot of enthusiasm about that in those days driven by a lot of people out of London and other places. Get rid of the Baath, throw out the old and bring in the new, and of course there was no new there. What institutional strength there was, was housed in these people, as well as... the non American power in the country, the non-American and British power, it really was housed in those people, so when you fire them and then they go home, do you think they just go home and sit there with their heads hanging and say 'gee I'm awful sorry, here is all the money back....? I think in a way, I think that probably wasn't the most...

DODSON:

There are several other historical examples that come to mind about technocrats. So you have to be mindful of that, you have to know what happens. You had technocrats under the Saddam regime basically running things. They at least kept smoke coming out. It may have been dark smoke, but things were continuing to run. Those were the technical people who had done it for years know how the switches work and who gets power and everything so that just makes

it difficult when they aren't there anymore because the other people haven't stepped up.

ENR: I have another business question. Here is Bechtel—private company, very, very big, but private company, can make business decisions about where you are going to go and where you are going to work and how you are going to make money for Bechtel. That's our job, too, to make money for McGraw Hill, and try to do good journalism, of course. But how do you evaluate taking your people into a dangerous place? And can you think of other examples of where you also faced this kind of problem and has this experience changed how you would evaluate dangerous jobs in the future?

MUMM:

We have a very rigorous internal review. We went through this very carefully. It wasn't just one person made the decision. In fact, in the end Riley himself signed off on it. And while I mention that, because people couldn't easily come in and out of Iraq, an additional job that Mike and I had, which was unusual compared to if I had a job in Kansas,. you wonder how much stuff you are going to tell your management because you don't want all that help, but in Iraq we felt we had to be the eyes and ears for what support we could get from the outside and really make sure we gave them clear vision. We were on the phone, not as a 4,000-mile screwdriver but just in a very helpful way and Riley [Bechtel] on a regular basis talking about scope and security what we should do about this, and not people second-guessing.

I think the lessons that we all learned together, including our whole management system in Iraq are now well integrated. I think it's a touchstone with us. You say well, if you went to this country you might face this and you might face that. And the other thing is that we have not made a business decision that we are going into war-racked places.

DODSON:

The expectation in beginning of 2003 was that things were going to improve from what they were, so that kind of business decision was taken. And then, we, along the way had to make very careful decisions—some of them were made very quickly when we thought that conditions had worsened and you kind of thin out the density in country find new ways to use more offshore help, and over time, that system became ingrained. And I think part of the thing Bechtel had done so well for years was safety and risk management, and so this just kind of overlaid nicely. You think about many of the same kind of things, because after all you train to preserve the health and welfare of the people. So that overlay just kind of continued into the field of security and you had to make judgments, as I was saying. As those indicators ticked up you had to make different measures along the way to make sure that you felt comfortable about your safety of your people.

MUMM:

How do you do that? How do you design a system about something that was forever, constantly changing? We

came up with an indicator system and we just monitored that, and we had weekly calls, with everybody. We just kept people very close to us so that when we went up so that people were... they were interesting conversations, because you were anxious...because what I was most anxious for when I was there, and I know Mike was, is that you don't want to accidentally be not seeing the forest for the trees.

You want somebody saying, 'well why would you do that?' Or, have you thought of this? or, 'come on, you've got to take this more seriously than this...or gosh, your overemphasizing that just because you don't like the way they are acting....'

DODSON:

You know about the frog in the water? You know when you just gradually turn the heat up? You just don't want to do that. You have to make the cold evaluation every once in awhile to recalibrate where you are.

MUMM:

And that was kind of my point, we did a couple of times have cold-eye looks that we called and we asked for the cold eye look and audited everything.,

Are we really doing the right work? Are we really compliant are we really paying attention to secure you the right way?

Are we doing the right training?

ENR:

Who were the auditors?

MUMM:

We went to a few outsiders.

ENR:

Like a peer review?:

MUMM:

Kind of. Had people come in from the company that hadn't been associated with the job and come on and take a look and they came back and we would sit down and go through what they had found, not in a hostile way... the point of it was when you are sitting there and you've got 160 people sitting in Baghdad and they are all looking at you and things are dropping all over and you say, holy cow, am I doing the right stuff here, because I talked these people into coming over and they talked each other into it, and what happens if one of them gets hurt? In our comp we are all so wired tog, like you guys, you all know if somebody gets a cold probably. so that's sort of how we felt, so it became really important to have cold-eye looks and also to make sure we exposed all of our uncertainty and how we saw things and what we thought about things to somebody on the outside so they could kind of look in and say, 'Just a minute Cliff, or Mike or Donna, you've gotta think about this or think about that...'

That collaboration, I think, that was a really fun thing. I think that was the best of Bechtel.

SLATOR:

And going to your question about how does it affect the future? I think the employees, if you look at the all the procedures and systems that we put into place it gives you great confidence when you take the next assignment.

MUMM:

Which will not be Iraq...or, not take the next assignment.

ENR:

Are there plans for a book about this? A lessons-learned and share it with the rest of industry beyond the way we are doing it right now?

MUMM:

Haven't thought about it. Probably would be willing to... We have talked to others who were working with us about what we think a security system is. What's interesting to me now is, and really get deep into security systems... I have been part of security systems in Algeria, Nigeria and other places., but what's interesting to me now is every place I go and I see a security system, even in the U.S., I critique it and I say.... that's really not secure...its only a matter of time till somebody figures out there is that density of people. It's too vulnerable....You get ga-ga about what is security and what is the illusion of security—both of which are important.

ENR:

Good dinner table topic too.

MUMM:

It is.

BONGHI:

One of the things I think is important that we had from a people side is a no-fault exit from the project. If you were fearful and you couldn't handle the stress any longer we did everything to get you out immediately with a no-fault clause...

MUMM:

...meaning you got another job right away.

BONGHI:

It wasn't looked at as a failure; on the contrary, we really worked closely with people on that and we kept our finger on the pulse. I also think one of the things that was a real compliment to the management team on the project was the open door policy amongst the senior managers with everybody, whether you were the local staff of the expatriate staff, it didn't matter those doors were always open. We had weekly meetings, we had security briefings, we had all-hands meetings and we were always very candid and transparent about what was going on.

SLATOR:

If you are living with somebody 7 days a week, 24 hours a day you had a lot of opportunities to talk to the project managers.

MUMM:

The Iraqis were so funny in the early days, every time you would walk in they would all jump to their feet. I know when I would go in the Bechtel people would all still be hunched over and wouldn't even acknowledge you.

ENR:

There are probably different rewards and punishment systems that both sides of the company are used to... But hindsight is 20:20; but having been there three times I could see security becoming more and more of an issue. Turning points, the Blackwater guys killed in Faluja in April...

MUMM:

...and the UN bombing, the Golden Mosque...

ENR:

Hindsight is 20:20. But having been through that as a company, if you had it to do over, would you go in again, would you do that?

MUMM:

If we knew?

ENR:

I was there the day before Baghdad fell and the day after it fell and I saw the looting and probably like a lot of other people and I didn't; recognize it for what it would become. All of that, but I also saw all the kids and 'Bush Number One!' and was like footage of VE/VJ day and it couldn't be different from the situation we are in now...

MUMM:

We are an American company. We are not a Republican company or a Democrat company, we are an American company, and regardless of what somebody thinks about the war and doesn't think about the conflict, in the end if we are asked to put our shoulder to the wheel then we would do our very best to do that. I know we would. I just know we would. We did it with FEMA...

We will go wherever we are asked to do that. I think we would be more generous in our advice in the future, because now we know some stuff.... And I think we are going to be a real outspoken and we'll say 'you need to do this and you need to do that,' but there is no way we are going to shrink away, we are part of this country.

It would have been wrong...I was never personally was enthusiastic about the whole thing in Iraq...but you know at the end of it I really thought we could make a difference and that we should get in there and try to make the very best of it: I listen when I say it—and it sounds silly—but I do think that's how you have to think. You can't just think of it like an individual, we're all in this together. What was it Lilly Tomlin said? 'We are all in this alone?'

One way or the other, we are, where we are.

DODSON

These tools are very important. If you are a nation trying to do something and you have various companies out there that have this expertise and have the strength and the reachback, those kinds of things you do have to answer

when someone says they need you, it's beyond a business decision sometimes. You just do because you think it's the right thing to do.

ENR :

But you were bidding against other people when you got it. Would you bid?

MUMM

I don't think we would bid to go into something that we saw would be an all out issue like this, but if it was a situation like we thought it was going to be and if we thought it was a program destined for success, we would want to do our best to help it succeed and we would want to be part of that success. Like putting out the oil fires in Kuwait. We desperately wanted our name on that. We wanted to be part of that, and it was a successful program. I think this program, we believe, in a more stable environment, we believe that what we did, as systematic as we were about it, that this would have provided a platform for the Iraqis to move forward. It's just sad that that's not exactly what we had.

ENR:

Given that there has been a lot of news lately about Nobel Peace Prize going to the micro banker...you guys are arguably about the best in the world at large-scale mega-project delivery and execution. Given all the problems we have had in Iraq tied to security, would a sort of micro approach and grass roots do better in the end in this kind of environment?

DODSON:

I think that it has to be part of what we were talking about earlier. When you go in to do nation-building, it's much like my experiences in Bosnia. You have to get the strength of the nation involved, and the strength of the nation is in the teachers and bankers and small businessmen and farmers. Those are the people who know how to do things and can make a difference and if you can find a way to muster them and have them to teach and coach the country that you are trying to help, then you've got power. Having a few advisors sprinkled around is not going to work.

MUMM:

I don't know what Margaret Hassan would have said about that, I think she would be probably aligned; I know the doctors without borders are no longer on the forefront of things in Iraq...a lot of the NGOs don't really have the resources to bear up. But on the other hand if you are in fixing and trying to work on institutional strength, if you have the right people, and as an NGO come and do this in a micro way, and if you are and trying to bootstrap up and you can build a platform with a group like us, and then I think you can keep bootstrapping. I think there is an absolute place and value in it. And, by the way, I think that is so brilliant. I told my kid about that and he said 'well, people have know about this,' and I sort of explained to him that he was the guy who thought it up. I think that was really brilliant, the telephone ladies... I think we must all listen to NPR.

ENR:

Your characterization of the force that goes in and the strength of a nation represented by the small entrepreneurs and helpful people, that really does characterize a lot of what we did send to Iraq. It seems what we lacked was meeting their counterparts and engaging them.

DODSON:

Well, that's why I say, when you do that, when you put something like this together of a marriage of the reconstruction effort writ large. Reconstruction includes all the nation-building tasks in addition to the physical task, and has to be married with security. So if you have a central plan and a mechanism like Cliff was talking about, built from the top down and have all of the supporting players, then the strength of these NGOs can be utilized best. Having people just wandering around doing their own thing does something, all of it does good, but its not very well focused, and as we found out with some of the NGOs they got in unsafe conditions.

ENR:

Well, I think we could go on and on, but we did promise 2 o'clock, because I know some of you have planes and trains and other forms of transportation...

MUMM:

Was it interesting?

ENR:

Oh yes. We seldom get a chance to debrief like this. I am so glad we taped. It will never be the same to create in words no matter how many notes we take as it will be for Gregg to edit it and put it on for people to really be able to hear what you had to say.

We were asking about a book, or after action report. I am really kind of surprised USAID doesn't make after-action report as a requirement. You talk about institutional knowledge and passing on and this would seem to be a great opportunity.

MUMM:

We do have it internally. I thought you were talking about publishing something at large.

ENR:

I was.

MUMM:

I think at the end, one of the things that I guess I would say is program management, project management principals, would have absolutely applied right at the very top of this whole effort. There should have been a schedule, there should have been a budget, there should have been an organization chart, there should have been objectives and a mission.

ENR:

CPM

MUMM:

Yes.

I guess I wouldn't go so rigid, but I guess that's what Mike and I are fluffing around here saying, if you are going to bring all this great stuff to bear you need to have it like a solid wedge, so it is focused, so it can be managed. I think that is an important lesson.

ENR:

We would be shocked if the guy from Bechtel, or any of the big companies, said anything other than that.

MUMM:

Thank you very much.

ENR:

And we will take you up on that dinner...