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Abstract
I am a career military engineer with professional, operational, academic, and infrastructure qualifications that are well suited to this assignment. I knew Iraq was facing an infrastructure and energy crisis before I arrived. I have found, without exception, that policy makers, commanders and military planners have consistently and grossly underestimated the infrastructure difficulties they would face before commencing military operations. Many factors contribute to the electricity and oil infrastructure difficulties. The focus on oil exports has obstructed internal projects that would better serve long-term interests. The lack of a market basis for energy structure is another serious problem. The EFC coordinates security and repairs. The exclusion zones have been very effective in improving distribution. The early 2008 Turkish problem [HFO for power; contracts and payments] was not unusual; it was just a "particularly high profile" example of common bureaucratic problems here. The National Dispatch Center matches power and load across the country. Its work is vital, as are its reports, and anything disrupting that threatens serious consequences for the country. Electricity is vital to the counterinsurgency campaign. The top priority is developing a coherent national energy strategy. Iraq has enormous potential, but we will not solve this problem this year or next. It will take a lot of time and resources.

Interview

What is your professional background and what individuals, events, or institutions would you point to as having a marked influence on your career?
I am a military engineer. I joined after university and followed a mixed career between combat engineering, technical engineering, and staff posts. For this post, I've got a reasonably coherent background in that I am a professional electrical engineer, a qualified electrical engineer, a chartered engineer in UK terms, and also a military engineer. So I've had experience with infrastructure in the past, but also with acquisition, so that has served me very well in this position. All that suits this job reasonably well.

I was drawn to engineering because of school, aptitude, enjoyed building things, making things happen, brought up on a farm, practical construction, results orientated. I've served in Northern Ireland, the Falklands (after the war, in reconstruction and development of the British garrison), the Balkans, and the Middle East.

This is my first time in Iraq, and I arrived in November of '07.
In my previous work on the invasion, I found that infrastructure was an immediate, huge problem in April and May of 2003. They thought they could restore power within weeks just by finding the Iraqi plant manager and having him flip the switch back on at the power plant. Now, five years later, we're still trying to turn the power back on. What did you understand the situation was before you arrived a few months ago?

4:04. I very much understood that there was a crisis in energy here, and that I was going to try to do what I could to assist Iraq in overcoming that. I think, as is usually the case with infrastructure issues, that military and--to an extent--non-military will ignore the challenge that infrastructure is going to pose to the success of an operation. I've seen it in every other operational theater I've been in. And I've taught at our technical staff college, and one of the lessons I've tried to teach at that graduate-level staff program is the importance of considering infrastructure in military planning. And it seems that this operation was no different, a gross underestimation by both military and civilian planners of the depth of the challenge here, and we're now seeing the evidence of the inadequate planning and preparation for that.

Is there anything to which you attribute that?

5:20. I think a . . . as I said, a lack of will to understand it effectively, and not looking for the right advice or ignoring the professional advice because it is too difficult. This country has suffered from thirty to forty years of neglect, and its infrastructure, it wasn't just the immediate operations that caused the damage. And that was never taken into account.

When you arrived in November 2007, what did your predecessor tell you about the situation?

6:36. He was pragmatic in terms of the situation we were facing. He was honest and realistic and the challenges, and tempered some of the others who were presenting a fairly rosy picture. So he gave me a pretty balanced view. [He said] there was an energy crisis here, particularly in electricity that it was going to take many years to resolve.

What are the elements of the energy crisis?

7:25. On the electricity side, we have an infrastructure that has lacked maintenance, and so the first problem was to try and repair that and get it going, but that was never able to satisfy demand, and as that demand has continued to climb, that aging infrastructure has been unable, even with the refurbishment its had, to cope with the rising demands and the pace with which new construction is going has been slow, because the focus here has been on repair and refurbishment. And obviously difficult conditions here to make that sort of capitol investment given the security and the various stages in the fiscal regimes in place.

8:20. On the oil side, oil fields that had lacked care and modern technology, and so despite the wealth of oil that is in the ground, a challenge to efficiently extract it, and that needed investment in new technology and machinery and that has been difficult to do. And then on the connectivity between the two sectors, has not been a focus, and there
fore linking the fuel from the oil sector into the electricity sector has not [unintelligible] been taken forward. The emphasis of both the Iraqis and the international effort has been on exports, when really we should have focused on getting the internal economy going, because the gearing effect that will have in the long term, and so providing sufficient oil products and electricity for internal requirements should have been a higher priority than exports. And so a combination of advice from the international community and the desire of [Iraqi] governments to maximize its exports has been to the detriment of the internal economy. So we have power stations at the moment lying idle for lack of fuel and no coherent plan for the future in terms of net policy and more export revenues than they know what to do with.

Had there been more focus on internal economic development, would that have likely helped combat insurgency and popular discontent?

10:10. Well, I think as General Petraeus has rightly identified, economic development is a crucial element of the counterinsurgency campaign, and economic development requires electricity and oil products. So it is a significant part of the campaign that he has placed very high emphasis on, and I brief him every day in the BUA on the status of the energy system, and he has kept a very close attention on these issues with some success.

I've seen efforts to rationalize fuel distribution by raising official prices charged to Iraqis. What is the status of such efforts?

11:00. Well, you've got two conflicting issues here. You've got the lack of a market basis for the energy structure here, which means that you've got opportunities for a black market structure to be more effective because of the subsidies and so on. And also, the lack of a market makes it difficult for a commercial enterprise now to come in and invest. On the other hand, they [Iraqis] are used to having subsidized everything, from food to energy, and their neighbors similarly. So it is difficult to move toward a market basis quickly when people are so poor and they're used to having subsidized energy. So it is a difficult balance to strike. Over time, I think it would be helpful to move toward a full-market basis with proper tariffs in place for electricity and market prices for fuel.

Has the GoI been trying to do that?

12:15. They certainly have increased the tariffs and the subsidized price of fuel. In the long term, I'm not sure what the strategy is, whether they're going to settle this on a subsidized regime.

Can you explain the Energy Fusion Cell?

13:04. We've got two roles, one is the day-to-day energy operations piece which is coordinating the security on the repairs to the strategic infrastructure and any other security coordination, so we link with the Ministries of Oil, Electricity, the Ministry of Defense, and Coalition Forces to try and repair the strategic infrastructure as quickly as possible by providing the right security environment and by linking all those players together. And that was the focus all last year, and it was very busy. What we see now is an improved situation in that much of the strategic infrastructure has been fixed, or the key bits of it, and we are now reaching into longer-term projects to refurbish parts of it. So the energy operations piece of it continues.
The other part of what we do in the EFC is the capacity development piece, so its providing a hub for information on energy and working on the two sectors with the relevant ministries to promote improvements and programs that are going to deliver the most effects to help them identify key priorities and opportunities and then also working with the central government to deal with things like the ICI (International Compact for Iraq), the development of a national energy strategy, and generally promoting a more coherent energy approach across the two ministries, so linking them together. So that's the role of the EFC working with colleagues within the State Department, trying to develop energy, take it forward in a coherent way.

**Can you discuss the exclusion zones?**

15:13 Clearly there are a number of ways you can go about improving the reliability of these lines and protecting them from attack, a mixture of patrols and surveillance, and physical measures like protective works. So, a combination of means has been put in place based on an analysis of the risks and threats, and on those lines that were most at risk in terms of historical and intelligence assessment, more robust physical measures were put in place as well, working with the GoI. And so we've got a number, or a whole mixture of measures from fencing and camera systems at Bayji Oil Refinery to improve protection there, to Pipeline Exclusion Zones which have ditches, fences, and berms, and Iraqi Army units guarding them, so there is a whole web of infrastructure protection works that are being funded by the USG. And partially funded by the GoI as well, and that includes both oil, electricity, water, and rail.

**Is it too early to say if you've seen a specific, positive result from that?**

16:40. It is not too early to say; there're extremely positive results from that, especially in the north. Northern exports are now reliably, from about September last year when work started on the Kirkuk-Bayji line, and that's the single most significant impact on oil exports for Iraq has been the improved security as a result of the introduction of the pipeline exclusion zone from Kirkuk to Bayji, which allowed the Northern Oil Company to export its crude oil on a consistent basis.

**Speaking of the north, could you discuss the drama I saw unfold in the BUA regarding Turkey, Heavy Fuel Oil, electricity imports, contracts, and the GoI paying its bills.**

17:40. Well, this is just one example of the difficulties that the GoI faces in terms of processes and governance, where they're still developing the mechanisms to track and manage contracts and to manage payments for contracts. This is just one example. It was particularly high profile because it involved a contract for importing electricity into Dahuk, and there were problems with it over the winter when weather was at its worst. It is a fairly straightforward arrangement whereby HFO goes to a private power plant in Turkey, and electricity is then imported at a particular rate based on the fact that HFO is provided as the fuel. But it involves two ministries, and contract mechanisms that GoI found difficult to manage. So we had to help a lot in terms of pressing, keeping it going, pressing it through, helping them process the paperwork, and reach decisions.
Do you think this reflected any difficulty with ministries in Baghdad not recognizing the population in Dahuk as constituents to whom they were accountable?

19:28. I wouldn't really be able to comment on whether that was a factor or not. I mean, what I saw, was a bureaucratic process that was unable to deliver effective program management. Whether there were any malign actors involved in making that process difficult, I couldn't really say. I would say that it was not exceptional in its mismanagement. We've had [cooling ports?] from Kuwait, similarly challenging issues, letters of credit, managing credit, supervising, managing, negotiating, paying bills, virtually every contract has problems with it.

You said you'd had other assignments in the Middle East. Where were those?

20:15. Mixed places. In the first Gulf War, I was based in Saudi and I popped in and out of Saudi subsequently in the 1990s supporting Royal Air Force operations, and Kuwait, and I supported the Kosovo air campaign.

Did those previous experiences give you any insight into bureaucratic difficulties being normative for the region?

21:11 Well, I think it gave me a better understanding of Arab business culture and the different approach and the importance of personal relationships, and the way things are managed differently. So that was useful, having worked out here before with understanding a little bit about the challenges they face in getting things to work.

Another issue that has arisen in recent weeks, due to the rise in violence in Baghdad, has been the degraded reporting from the National Dispatch Center, and General Petraeus has highlighted the consequences we face if we don't get accurate and up to date reports from the NDC. What is the NDC, how does it normally function, why have these problems arisen, and what are the ripple effects?

22:23. Any electricity grid for a country needs to be controlled from a central place that covers the whole country. So, for Iraq it is the NDC at el Alamein in New Baghdad. And so that has staff and the communications links, the instrumentation links that go out to substations and power stations. They are tracking the power that's being supplied from the power stations and the load that's connected, and making judgments and decisions about balancing the two, making sure that they balance the load and the supply. So it's really a key focus and its got a lot of technology that gets beamed in there. And then they control it by a mixture of sort of manual and an automatic means. So it has a key role, and they also produce a daily report on the performance of the grid and the performance of the power stations, so it is an important control hub for running the grid, and every country has one.

23:50. The problems they've had are that the staff hasn't been able to get into work there. The general atmosphere has been difficult in recent weeks, with threats and intimidation of the staff, so they've been on limited manning, and some of them, I would imagine, have been intimidated into not doing their job to the best of their abilities from a
professional point of view. So that is an impact. Nevertheless, they've managed to keep the grid running. We haven't had blackouts in the last couple of weeks, which is a testament to their commitment through the various intimidations they've faced, but what has suffered has been the reporting mechanisms. If it were to get worse, and they were unable to go to work, or if they were disrupted, then the country would lose the ability to manage its grid, and we'd have a series of blackouts and so on. And so, if it not resolved, and if it got worse, then there would be a significant economic impact. But at the moment, they've got sufficient people working sufficiently well to manage the grid, but we're just suffering from a lack of reporting, and we're looking at a number of means to help the GoI and the Ministry of Electricity resolve it.

In a BUA in the last ten days or so, the CG said "look what they're doing in Mosul. They're taking down the lines, and you can't fight a counterinsurgency without electricity." Could you expand on that?

25:30 Well, I think it goes back to the earlier comment about economic development and the importance that plays in bringing the population, bringing benefits to them, providing employment opportunities, taking away from the sort of malign influences, some of the reasons for their engagements. So if there is a positive supply of electricity, that has a positive impact on people's lives, whether it's living at home, having their lights on, or going to work and having a job to do because the electricity is on. So, it is a very, very important part of the broader counterinsurgency effort and security. It's sort of Maslow's hierarchy of needs, you know, electricity would be in there somewhere in one of the levels. When you have electricity, you're a lot more comfortable and more satisfied and you're more likely to have a job and likely to be more supportive of the government effort.

When your replacement arrives, what will you tell him is the top priority?

26:45. To keep pressing for a national energy strategy. Iraq does not have a clear view of how it sees its energy structure being developed in the long term. It's got some key decisions it's got to make about how to develop it. They clearly need to lay it out, but 1) what is their long-term policy for power generation. Is it going to be using natural gas, for example, in which case they should be in the pipeline network and convert the power stations to gas? Is it going to be bringing in IPPs (Independent Power Producers), in which case they need the legal framework to allow that? On the oil side, they should clearly focus on meeting domestic needs. Then, what's going to be the next step? Are they going to develop a petro-chemical industry or are they going to export everything else? What is the policy of exporting gas? So there are some fairly high level policy decisions that that strategy needs to set out that will steer their investment program. At the moment, it's a bit uncoordinated, and we have power stations being built around the country without a coherent fuel plan, and we don't have the right framework for encouraging private investment on the oil side. It's still really focused on exports without a sense of where they're going in the long term. So once that's in place you can come up with a more detailed plan about developing the two sectors in an integrated way, investing, putting the right laws in place, putting in place the economic mechanisms, tariffs, subsidies, and so on, to create the effects you want and the strategic direction you need.
When will you leave?

Is there anything else you'd like to add?
Well, I think Iraq is blessed with the most incredible natural wealth in terms of its oil, and given a coordinated approach, they're so much better off than other countries. They should be able to get their energy sector working well, but poor coordination has really blighted this as well as a legacy of very old and poorly maintained equipment. So, [there is] a lot of money still to go, a lot of time to sort it out. It is not going to happen this year or next year. A much bigger problem than everyone anticipated coming here, and the electricity situation in particular is going to be a real blocker on economic development, and it is going to be a real challenge.