

Report on USAID and US Embassy/Baghdad Iraq Power Generation Reform Workshop

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Table of Contents

1. Introduction.....2

2. Highlights of Workshop.....3

Annex: Final Workshop Agenda.....5

1. Introduction

A workshop for the Ministry of Electricity of Iraq (Ministry) was conducted on September 13, 2012 at the Ministry headquarters in Baghdad, focusing on electricity generation sector reform. The workshop was the latest in a series provided by USAID for the Government of Iraq. This report is to provide a brief summary of the key immediate outcomes and highlights of the workshop for submission to USAID and the U.S. Embassy.

Previously, David Keith had been scheduled to give the presentation on July 5, but this was called off by the MoE due to a conflict, and rescheduled. Tetra Tech had prepared two documents in July, as follows:

- Workshop 3 – Electricity Generation and Transmission Reform Issues (Powerpoint presentation)
- Middle East Power Sector Characteristics (background paper)

Both these documents were prepared in both English and Arabic and all four of these documents are provided herewith together with this report.

A telephone call was held on August 12 between David Henry and Wally Sabih (US Embassy officials) and Mr. Keith to discuss the workshop. It was in that meeting that Mr. Keith was informed by the US Embassy of the MoE's desire to limit the topic to power generation, rather than generation and transmission. In addition, Mr. Keith was instructed to bring 30 copies in Arabic and 6 copies in English of the presentation and the back ground paper to Baghdad. It was agreed that the document previously prepared would be unchanged, except for the new date.

Then, after arrival in Baghdad, on September 11 Mr. Keith met for three hours at the MoE with three of the key MoE officials, Mr. Laith Hameed (incoming Direct General for Planning & Studies), Eng. Tawfeeq Salman (Gas Power Generation Manager and one of the workshop presenters), and Mr. Amer Rajab(head of MoE Regulatory Committee). There he presented copies of his presentation and background paper to the MoE. Based on that meeting, Mr. Keith adjusted his slides accordingly, to remove the slides that dealt with transmission. The revised presentation, labeled v2, is included herewith.

In the pre-session, Mr. Keith also went over Eng. Tawfeeq's presentation with him. They had a good discussion about this situation in Iraq as regards gas turbine power plants, maintenance etc. Their discussions included the improvements that MoE is planning, such as inlet air cooling systems, fogging systems, and new self-cleaning air filters. All these innovations are state-of-the-art improvements, and Mr. Keith was very favorably impressed that Iraq is able to proceed with these new technologies.

2. Highlights of Workshop

The final agenda for the workshop (actual timing) appears in an annex at the end of this report.

Key attendees from the MoE were as follows:

- Minister of Electricity: Honorable Mr. Karim Aftan
- Presenter: Dr. Abdul Hamza Abbood, reform advisor MoE Planning & Studies, also works on EPC procurement for Gas Power Plant Projects (GPPP)
- Presenter: Eng. Tawfeeq Salman, Generation Department, Gas Powered Gen Manager Production (Generation) Director General (DG): Mr Alaa Dasher
- Planning and Studies DG: Dr. Kusay Abd Al-Sattar
- Incoming Planning and Studies DG: Mr. Laith Hameed
- Head of the regulation committee Planning and Studies: Mr. Amer Rajab
- Planning and Studies training and workshops administrator Mr. Zaid Abd Al-Fattah

In attendance from the US side were

- Mr. William Bryan, Deputy Assistant Secretary for Infrastructure Security and Energy Restoration in the U.S. Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability.
- Brandon Borkowicz, Energy Officer, US Embassy Baghdad
- Wally Sabih, Advisor to Energy Sector team, US Embassy Baghdad
- Presenter: David Keith, Vice President Tetra Tech

In addition to the above, about 30 other representatives from the Ministry joined the workshop, and there were also some photographers. The workshop lasted almost three hours. The Minister and Mr. Bryan left after the first hour, but all of the various DG's remained in attendance the whole time, which served to show senior level support in the Ministry.

In his remarks, the Honorable Minister thanked the organizers (MoE Planning & Studies Department and US Government) for holding the reform workshop. He noted that the importance of the program is to find solution to all the problems that face the electricity sector. Now that the generation sector is receiving attention, he indicated that it is now important to put attention to the transmission sector, which already faces many relay protection faults. Also, he emphasized the importance of reforming the maintenance program for the generation sector. He indicated that the cost for maintenance for certain older units might not be feasible. He pointed out that adding combined cycle units will aid in generating more power under the current situation of fuel, weather and temperature. He said that analyses are needed to evaluate the aging generation units so that they may be retired and replaced by newer units. The goal is to generate more power under the current implementation of the new projects, also, reduce the losses that the ministry is facing with tariff (consumers must pay their electricity bills). He said that using smart meters can play a role in resolve some of this problem.¹

In his remarks, Mr. Bryan noted the partnership of Iraq and the US, and that this workshop is one of a series that the US Government is supporting together with the Government of Iraq. He informed the group that he would be talking with the Minister later in the day about another program, in which US

¹ Thanks to Wally Sabih for providing this summary of the Ministers remarks, which were in Arabic.

Government is offering provide training to Iraqi engineers and technicians in power plant operations and maintenance. He indicated that the US Government looks forward to continuing its partnership with the Ministry of Electricity in the future.

In the first technical presentation (which is attached herewith), Dr. Abdul Hamza Abbood gave an excellent report on electricity generation sector reform in Iraq. His report covered the load forecast, reasons behind the generation shortage, and the plans to expand generation capacity. He described generation expansion projects now underway, which should bring 15,000 MW additional capacity online over the next two to three years. He described some of the reasons why these projects have been slow to implement (including procurement issues, commercial issues and legal issues). Dr. Hamza went on to explain the concept of a sustainable electricity sector, why reform is needed, how to carry out reform, and when. His presentation was very comprehensive and appeared to be well-received by the audience.

The second presentation (also attached herewith) was an excellent counterpoint, in that it went into engineering details at the level of power plant operations and maintenance. In his report, Eng. Tawfeeq described the planned maintenance program for the coming year, by power plant manufacturer and unit size. He showed a plan to secure additional capacity of 761 MW through maintenance actions, plus another 420 MW by rehabilitating units now out of operation. In addition to listing these actions, he sought to educate the attendees in new innovations that MoE is exploring to provide additional power in hot weather, including inlet air cooling systems, improved inlet air filters to better cope with the dusty environment, addition of steam power (combined cycle) onto existing simple cycle gas turbines, plans for O&M contracts with equipment suppliers, and plans for a computerized maintenance management system.

The first two presentations were given in Arabic. The third presentation was by Mr. Keith (attached herewith) in English. He covered the classical model of sector reform, unbundling of a traditional Ministry of Energy, possible reorganization models for generation, the spectrum of various types of public private partnerships, the role of independent power producers (IPPs), contracts involved in IPPs, description of the single buyer model and its functions, pros and cons of the single buyer model, reasons for reform, the choices a government needs to make, and the trade-offs involved.

Because the hard copy handout versions of Mr. Keith's presentation (brought from USA) still included transmission aspects, he used red color in the slides to indicate where parts were omitted from his handout presentation, so that the audience could follow along with the Arabic hard copy version.

The discussion following Mr. Keith's presentation focused on the fate of power sector workers involved in reforms. There was clear concern about possible loss of jobs. Mr. Keith indicated that power sector workers are an important part of the reform effort, and as a key stakeholder group their needs must be carefully considered. He described various cases in which power sector jobs had been protected for some length of time, such as Poland, Hungary, and Russia. He also described an innovative approach used in Uganda's privatization, where the World Bank funded a cash payout of their accrued retirement benefits to all power sector workers, as they transitioned from public sector to private sector workers. That approach was successful in obtaining approval from trade unions.

There was also discussion of the transition path and how long it takes. Mr. Keith informed them that it has taken several years in most countries. He also reassured them that power sector professionals jobs have been largely maintained in all countries. He said, "who else but you is technically capable of running your power sector?"

Annex: Final Workshop Agenda

Reform of National Systems of Electricity Generation Workshop

September 13, 2012

Location: Ministry of Electricity, Baghdad

Agenda

- 9:00 - 9:25 Opening: Introductions by:
- Ministry of Electricity Representative
 - US Embassy Representative
 - Hon. Karim Aftan, Minister of Electricity
 - Mr. William Bryan, Deputy Assistant Secretary, U.S. Department of Energy
- 9:25 - 10:10 Generation Reform: Presented by Dr. Abdul Hamza Abbood, MoE
- Why we need to reform the Generation Sector
- 10:10 - 10:40 Generation Reform: Presented by Eng. Tawfeeq Salman, MoE
- Power Plant Operation and Maintenance
- 10:40 -11:30 Generation Reform: Presented by David Keith
- Options for Organization and Operation of the Generation Sector
 - The Role of the IPP's in a Reformed Sector
 - The Impacts of Payment, Non-payment and Subsidies
 - Options for Organization and Operation of the Transmission Sector
 - Transco as a Single Buyer Option and its Relative Merits for Iraq
 - The Necessity for Clearly Defined Choices
- 11:30 -11:50 Focused Discussion: Facilitated by Dr. Abdul Hamza Abbood and David Keith