REQUEST FOR EXPRESSIONS OF INTEREST (REOI)
(CONSULTING SERVICES – FIRMS SELECTION)

Country: Government of Islamic Republic of Afghanistan

Project: Central Asia South Asia Electricity Transmission and Trade Project (CASA-1000)

Project ID: P145054

Grant No: IDAH927-AF

Assignment Title: Consultancy Services for Grid Stability Study of existing 220kV line from Tajikistan for Afghanistan’s share in CASA-1000

Reference No. AF-DABS-102044-CS-CQS

The power sector of Afghanistan is being driven fundamentally by the Ministry of Energy and Water (MoEW) as its core responsibility. However, Da Afghanistan Breshna Sherkat (DABS which was established in 2008, under The Corporations and Limited Liabilities Law of the Islamic Republic of Afghanistan, with all its equity shares owned by the Government of Afghanistan, is responsible for the operation and management of the electric power generation, import, transmission, local power distribution and billing throughout Afghanistan on a commercial basis.

Afghanistan has a population of 27.66 Million\(^1\) for settled areas. The per-capita annual usage of electricity is about 195 kWh, which is amongst the lowest in the world. Only 28% of the household is connected to the power supply systems, the vast majority of whom live in urban centres. Rural power supplies continue to rely on hydropower, with limited diesel and battery options, and are estimated to cover less than 9% of the rural population. This lack of access is significant in light of the fact that more than 75% of Afghans live in rural areas\(^2\). According to Power Sector Master

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\(^2\) Afghanistan Rural Renewable Energy Policy, MEW & MRRD, 2013
Plan (PSMP) the net demand is expected to increase to 15,909 GWh in 2032 in the base case with an average annual growth rate of 9.8%. According to an estimate the actual present demand of Afghanistan, including served and unserved demand, is 5000 MW whereas installed capacity (domestic and import) is nearly 1500 MW. Afghanistan heavily relies on imported power from the neighboring countries (Tajikistan, Uzbekistan, Turkmenistan and Iran); its imported energy contributes 81% to Afghanistan’s energy mix. MEW forecasts that approximately 640 MW of new domestic capacity will be added in the next five years, and a further 1700 MW in another five years, indicating that over the next decade, domestic generation capacity will increase by close to five times current levels.

In mid-2015 there were 12 hydropower plants in Afghanistan, not counting the over 5,000 off-grid NSP hydropower plants. The two largest among those are Naghlu Hydropower Plant at 100 MW installed capacity and Mahipar Hydropower Plant at 66 MW installed capacity. A new 42 MW hydro at Salma in Herat province was opened in June 2016, and work continues on developing an additional 18 MW of capacity at the Kajaki Hydropower Plant in the south of the country. There are 9 thermal plants connected to the grid, with a total rated capacity of approximately 209 MW. Another 8 small plants with an aggregate capacity of 12 MW operate off grid. All of the thermal capacity is diesel fired. The power generation mix is run to minimize costs by favoring cheap power from abroad and the use of domestic hydropower over thermal and diesel power plants. The government plans to continue increasing import capacity through projects set out in the National Energy Supply Program (NESP).

The existing power system of Afghanistan is operated in islanded areas depending on the source of generation and imports. The agreements (PPAs) with importing countries are such that one sub system importing power from one country cannot be synchronized with the subsystem importing power from another country. This invites a big vulnerability in the whole energy system of the country. Therefore, main threat to Energy Security comes from

- **Vulnerability of Cross Border Interties**
- **Asynchronous operation of power system fed from one country and another power system fed from another country**
- **Asynchronous operation of a system fed from local generation and the imported system**

Although DABS have divided their concession areas into three Power Systems administratively but they are operating into different subsytems asynchronously. The three main power systems are:

1. North East Power System (NEPS)
2. South East Power System (SEPS)
3. West Power System (WPS)
Objectives

The Afghanistan system operators intends to run its power grid with an additional 300MW from Sangtudah in Tajikistan to Kabul using the existing 220KV corridor, thus seeks an alternative source or options of transmitting the additional 300MW on the existing line highlighted above is required. Options may include the reconductoring of existing 220KV double circuit to Pul-e-Khumri with a higher capacity conductor, with a view to increase the ampacity of the line. Others could include constructing new lines or using an underground XLPE cable to supply the new capacity of 300MW. Consequently, a holistic diagnostic of the power system would be required to analyse system stability issues in lieu of the additional power, analyse options in terms of technical, economic and practical matters taking into account short, medium and long-term perspectives of the Afghan power system and regional interconnection and provide recommendation to DABS, Ministry of Energy and Water and the concerned government agencies for making informed decision on the necessary investment.

The objective of this Consultancy Services is to carry out a pre-feasibility study, including a grid stability analysis to ascertain the least cost and technically sound option for evacuating the additional 300MW to be imported from Tajikistan to Kabul under CASA Project on existing 220 kV transmission line corridor.

Central Asia South Asia (CASA) Interconnections

CASA 1000 is the interconnection project that seeks to interconnect the electricity grid of Central Asia and South Asia in a view to stimulate regional electricity transactions. Key components of the CASA 1000 are as follows:

i. 1000 MW supply to Pakistan through ± 500 kV HVDC Bipole line from Sangtudah (Tajikistan) to Nowshera (Pakistan)

ii. 300 MW supply for Afghanistan in addition to existing 300 MW through the existing 220 kV double circuit from Tajik substation of Sangtudah connected via Sherkhan Bander (Afg) to Pul-e-Khumri (Afg)

Scope of Work

The scope of work will include but not limited to the following Tasks:

Task-1: Determination of least cost and practical option to transmit additional power
Task-2: Develop and validate simulation models to validate the recommended option
Task-3: Conduct Steady and Dynamic/Transient Stability Analysis
Task-4: Compilation of Results and Submission of Reports
For further information on the scope of the services, you can access the outline of ToR under the above mentioned assignment title and reference number on the website: www.ageops.net and www.dabs.af

Da Afghanistan Breshna Sherkat (DABS) now invites eligible consulting firms (“Consultants”) to indicate their interest in providing the Services. Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services.

Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services. The shortlisting criteria are:

1. Corporate Capacity (Core business and years of experience in the business for at least 7 years).
2. Proven experiences of being familiar with similar activities and having executed at least two contracts of similar nature, size and complexity within the last 7 years.
   The Consultant while describing the assignments should furnish the following details:
   - explain in what way the executed assignment was similar in nature to the current assignment;
   - explain the exact role played by the Consultant in the assignment if the assignment was carried out in association with other firms as JV or in sub-consultancy;
3. Regional experience, not mandatory, are desirable.
4. Availability of technically qualified staff along with organizational structure (brief qualification and not CV are required);
5. Eligibility requirements in compliance with paragraphs 1.11, 1.12, & 1.13 of the Guidelines: Selection and Employment of Consultants [under IBRD Loans and IDA Credits & Grants] by World Bank Borrowers – January 2011 Revised July 2014 the consultants should also provide a copy of the certification of incorporation/business license.

The attention of interested Consultants is drawn to paragraph 1.9 of the Guidelines: Selection and Employment of Consultants [under IBRD Loans and IDA Credits & Grants] by World Bank Borrowers – January 2011 Revised July 2014 setting forth the World Bank’s policy on conflict of interest. In addition, please refer to the following information on conflict of interest related to this assignment as per paragraph 1.9 of World Bank’s Procurement Regulations for IPF Borrowers available at www.worldbank.org/.

Consultants may associate with other firms in the form of a joint venture or a sub-consultancy to enhance their qualifications. If consultants intend to associate with other firms, they are advised to clearly identify the lead partner and state the composition and nature of the association (JV/sub-consultancy) in their EOI.

In case association between the firms is in the form of JV, only the firm meeting above criteria substantially shall act as the Lead Partner of the JV. In case, more than one firm meet the above criteria substantially, any of those firms can act as the Lead Partner.

There is no such requirement if the association is in the form of sub-consultancy.
A consultant firm will be selected through **Consultant Qualification Selection (CQS)** in accordance with the procedures set out in the *Guidelines: Selection and Employment of Consultants [under IBRD Loans and IDA Credits & Grants] by World Bank Borrowers – January 2011 Revised July 2014*. Particular importance will be given to the qualification of the consultants and their ability to operate in Afghanistan.

Further information can be obtained at the address below during office hours, i.e. 09:00 to 16:00 hours. Electronic queries will be entertained.

Expressions of interest must be delivered in a written form to the address below (in person, by mail, or by e-mail) by **May 11, 2019 16:00 Hrs (Kabul Local Time)** duly quoting the case’s reference number i.e. **AF-DABS-102044-CS-CQS**

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