





Asian Development Bank


Memorandum
South Asia Department

11 December 2014

FOR APPROVAL

To: Hun Kim, Director General  12/12

Through: Y. Zhai, Director, SAEN 

From: For L. George, Energy Specialist, SAEN 
P. Hattle, Senior Energy Specialist, SAEN

Subject: **BAN 44192-017: S-PPTA for SASEC Bangladesh India Electrical Grid Interconnection Project II**
— Request for Approval of Small-scale Technical Assistance

A. INTRODUCTION

1. The S-PPTA is not included in this year's Country Partnership Strategy. A fact-finding mission was not fielded as sufficient information has been gathered to proceed with TA processing.¹

B. ISSUES

2. The South Asia Subregional Economic Cooperation (SASEC) Bangladesh India Electrical Grid Interconnection Project II² (the Project) will upgrade the power transmission capacity of the existing Bangladesh and India grid interconnection from 500 megawatt (MW) to 1000 MW. This will allow Bangladesh to increase the import of electricity from India to meet the deficit from increased power demand. The power grid of Bangladesh at Bheramara and the eastern power grid of India at Baharampur were first successfully interconnected in 2013, financed by an ADB loan.³

3. Bangladesh is unable to meet current demand for electricity and the demand-supply gap is widening. The government set an ambitious target to achieve electricity for all by 2021 (50 years since independence) and initiated several projects to add new generating capacity to meet an expected 19 gigawatt (GW) power demand by 2021, including rehabilitation of existing power plants, setting up of large coal projects and creating inter country grid interconnections. However, growing electricity demand coupled with increased requirements for natural gas in other sectors resulted in shortages of about 1000 MW of electricity in the latter half of 2014 impacting economic performance, business competitiveness, productivity and quality of life.

4. The Government of Bangladesh has requested ADB lending assistance for the Project. The S-PPTA will provide required support to undertake preparatory work and due diligence for

¹ There is adequate background information for the S-PPTA based on performance of the ongoing SASEC Bangladesh India Electrical Grid Interconnection Project and project documents prepared by Government of Bangladesh.

² The Project is included in Bangladesh Country Operations Business Plan 2015- 2017. Manila.

³ ADB, 2013, *Report and Recommendation of the President: SASEC Bangladesh India Electrical Grid Interconnection Project*, Manila.

the project. The concept paper for the proposed loan has not been approved to date by the Vice President Operations 1 and approval of this S-PPTA does not commit ADB to financing the proposed loan planned to be taken up for consideration by ADB management and Board in 2015. The DMF for the proposed Project is provided in Appendix 1.

C. THE PROPOSED TECHNICAL ASSISTANCE

1. Impact and Outcome

5. The Project impact will be the increased capacity for cross border power trading between Bangladesh and India by 2018. The outcome is the completion of the project design for cross border power trade between Bangladesh and India. The output is the due diligence of the Bahrapur Bheramara power transmission link.

2. Methodology and Key Activities

6. The S-PPTA will require 6 person-months of international and 4 person-months of national consulting services. ADB will hire individual consultants in accordance with the Guidelines on the Use of Consultants (2013, as amended from time to time). The proceeds of the S-PPTA will be disbursed in line with ADB's Technical Assistance Disbursement Handbook (May 2010, as amended from time to time).

3. Cost and Financing

7. The S-PPTA will cost about \$200,000 and will be financed through ADB TASF (Other Sources). Cost estimates and financing plan are provided in Appendix 2.

4. Implementation Arrangements

8. ADB will be the executing agency for the S-PPTA. In-kind contributions will be provided by the government and PGCB. The PPTA will be implemented over 2014 and 2015. Output based (lump sum contracts) will be considered for all consulting services. Outline terms of reference are provided in Appendix 3.

D. RECOMMENDATION

9. With authority delegated to heads of departments to approve small-scale technical assistance, your approval is requested in an amount not exceeding the equivalent of \$200,000 on a grant basis from the ADB's TA funding program (TASF- Other Sources). Such approval will be reported to the Board in the Quarterly Summary Report on Small-Scale and Supplementary Technical Assistance Projects Not Exceeding \$225,000.

Attachment: (1) Design and Monitoring Framework
Cost Estimates and Financing Plan; Terms of Reference
(2) TA Registration
(3) Comments Matrix

cc: Vice President (Operations 1); Directors, OCO; OSP1; SARC; Country Director, BRM; Assistant General Counsel, OGC; Head, CTIS; Senior Advisor to VPO1; Advisor and Head, Portfolio, Results & Quality Control, SAOD (H. Carlsson); Principal Climate Change Specialist, SAOD-PR (A. M. Ahmed); Principal Social and Development Specialist (GAD), SAOD-PR (F. Tornieri); Senior Safeguards Specialist, SAOD-PR; Senior Public-Private Partnership Specialist, SAOD (L. Weidner); Financial Management Specialist, SAOD-PR (S. Shafiq); L. George; P. Hattle, SAEN

PRELIMINARY DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks^a
<p>Impact</p> <p>Increased capacity for cross boarder power trading</p>	<p>Over 4000 GWh will flow over the interconnection to Bangladesh starting 2017-2018 (2014 Baseline: About 2000 GWh exchange with India in 2013-2014)</p>	<p>BPDB and annual energy sector reports from SASEC countries</p>	<p>Assumptions</p> <p>Political and operational agreements arrived at between South Asian countries on regional electricity trading.</p> <p>BERC to set cost reflective tariffs for utilities in Bangladesh.</p> <p>Utilities to continue to develop distribution infrastructure to provide electricity supply to un-electrified consumers</p>
<p>Outcome</p> <p>Project design for cross-border power trade between Bangladesh and India completed</p>	<p>Concept Paper (for ensuing loan) approved by 2015</p>	<p>MPEMR Annual Reports</p>	<p>Assumptions</p> <p>Government approvals and reports including clearance of the project pro-forma received in a timely manner.</p>
<p>Outputs</p> <p>Due Diligence of Bahrapur – Bheramara Power Transmission link undertaken</p>	<p>Technical, financial, economic and safeguard due diligence report submitted by 2015</p>	<p>Consultant reports</p>	<p>Assumptions</p> <p>PGCB submits project reports including environment and social resettlement reports in a timely manner for review.</p>
Activities with Milestones		Inputs (in \$ '000)	
<p>Output 1: Due Diligence of Bahrapur – Bheramara Power Transmission link undertaken</p> <p>1.1 Recruit individual consultants by January 2015</p> <p>1.2 Finalize PGCB project report and related documents for due diligence by January 2015</p> <p>1.3 Review of PGCB project documents by March 2015</p> <p>1.4 Submit of draft reports by April 2015</p> <p>1.5 Submit of final reports by June 2015</p>		<p>ADB 200.00 (TASF)</p> <p>The government will provide counterpart support in the form of counterpart staff, project reports and office accommodation.</p>	

ADB = Asian Development Bank, ADF= Asian Development Fund, BERC = Bangladesh Energy Regulatory Commission, BPDB = Bangladesh Power Development Board, EA = Executing Agency, GoB = Government of Bangladesh, MW = megawatt, PGCB = Power Grid Company of Bangladesh Limited.

Source: Asian Development Bank estimates.

Cost Estimates and Financing Plan
(\$'000)

Item	Total Cost
Asian Development Bank^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants (6 person-months)	138,000.00
ii. National consultants (4 person-months)	16,000.00
b. International and local travel	32,000.00
2. Surveys	5,000.00
3. Contingencies	9,000.00
Total	200,000.00

^a Financed by the Asian Development Bank's Technical Assistance Special Fund (TASF-other sources)
Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. Table 1 reflects required services for the S-PPTA.

Table 1: Summary of Consulting Services Requirement

Positions	Person-Months Required
International	
Interconnection Specialist	2.0
Economic Specialist	2.0
Financial Specialist	1.5
Financial Management Specialist	0.5
National	
Environment Specialist	2.0
Social Specialist	2.0

Source: Asian Development Bank estimates.

2. The outline terms of reference for the project preparatory TA consultants are described in paras 3. to 8.

3. **Power Systems Specialist** (international, 2 person-months). The Specialist will demonstrate experience in implementation of interconnection projects and will have a minimum experience of 15 years in the power sector. He/she should have a degree in engineering and/or business management. Experience in the south Asian region, power markets and in Bangladesh in particular would be desirable. The terms of reference would include reviewing the proposed options for power supply from the Indian power market, requirement for additional agreements for transmission network usage and to provide inputs to the SAEN team and the Government of Bangladesh for the project including requirement for capacity building and support in Bangladesh for the interconnection and the power market.

4. **Economist** (international, 2 person-months). The Specialist will demonstrate experience in modeling and economic appraisal of electricity transmission projects and will have a minimum experience of 10 years. He/she should have a degree in economics. Experience in the south Asian region and on interconnections would be desirable. The terms of reference would include undertaking regional and country specific economic analysis following ADB's Guidelines for economic analysis for the project based on a review of demand and supply forecasts and least cost alternatives.

5. **Financial Specialist** (international, 1.5 person-months). The Specialist will demonstrate experience in financial modeling of transmission projects including financial appraisal and modeling and will have a minimum experience of 10 years. He/she should have a degree in accounting/finance. The terms of reference would include (i) support finalization of cost estimates in accordance with ADB's requirements, (ii) undertake financial analysis for the project, (iii) prepare 10 year financial projections for PGCB, (iv) review financial management at PGCB and update the financial management assessment for the project in accordance with ADB's Guidelines on the Financial Management and Analysis of Projects (2005)¹. In addition, the Specialist would also determine and agree on project and entity financial reporting, auditing and disclosure requirements.

¹ Relevant information may be accessed at <http://www.adb.org/projects/operations/financial-management-resources>

6. **Financial Management Specialist** (international, 0.5 person-months). The Financial Management Specialist will demonstrate experience of at least 10 years in financial assurance including relevant ADB/MDB experience, preferably in Bangladesh and the energy sector. He/she should have a masters degree or equivalent in accounting/finance and a relevant professional qualification. The terms of reference would include (i) review financial management at PGCB factoring in the impact of assessments undertaken at the country and sector level (including PEFA assessments) (ii) update the financial management assessment questionnaire to collect information to assess the strength and weakness of the financial management system and controls and (iii) update the financial management assessment for the project including key risks and means to mitigate the risks in accordance with ADB's Guidelines on the Financial Management and Analysis of Projects (2005)¹. In addition, the Specialist would also determine compliance of entity level audited financial statements with relevant national and international accounting standards and identify project and entity financial reporting, auditing and disclosure requirements.

7. **Social Safeguard Specialist** (national, 2 person-months). The Specialist will demonstrate experience in preparing and reviewing resettlement plans and will have a minimum experience of 10 years and relevant educational qualifications. The terms of reference would include a review of the national legal policies on land acquisition and involuntary resettlement to verify adequacy and consistency with ADB's Safeguard Policy 2009, confirm the categorization, organize and conduct stakeholder consultations and surveys as required, a review of gaps if any, review of the draft resettlement plan (including cost estimates) and communication plan developed by PGCB (for the project preparatory stage and beyond), prepare the summary poverty reduction and social strategy in accordance with ADB's requirements and prepare the terms of reference for implementation review consultants.

8. **Environment Safeguard Specialist** (national, 2 person-months). The Specialist will demonstrate experience in preparing and reviewing initial environment examination for electricity transmission projects and will have a minimum experience of 10 years and relevant educational qualifications. The terms of reference would include a review of the national legal policies on environment to verify adequacy and consistency with ADB's Safeguard Policy 2009, confirm the categorization, organize and conduct stakeholder consultations and surveys as required, a review of gaps if any, review of the draft initial environment examination (including cost estimates) and environmental management plan being developed by PGCB and ensure conformity with ADB's requirements and prepare the terms of reference for implementation review consultants. In particular, the consultant would ensure that issues regarding health and safety, noise, flooding and minimizing habitat loss are covered.

9. The following reports would be produced by each individual consultant at key stages of the TA implementation:

- (i) an inception report within 2 weeks of mobilization;
- (ii) a draft final report within 2 months of mobilization;
- (iii) a final report with 3 months of mobilization

¹ Relevant information may be accessed at <http://www.adb.org/projects/operations/financial-management-resources>

PRELIMINARY RISK ASSESSMENT

1. The major perceived risks at the output level include cost overruns during implementation and limited capacity to implement. These risks are partly mitigated by a price adjustment formula in the contracts, suitable contingencies as well as continued technical support from PGCIL to PGCB.
2. The major risks at the outcome level include delays in entering into power purchase agreements that would impact timing and cost of power to Bangladesh. This is expected to be mitigated by reviewing power procurement options during the PPTA stage and finalizing a timeline in discussion with the government to ensure that power purchase agreements are entered into in a timely manner.
3. Project preparatory due diligence will further assess the likelihood and impact of other risks associated with the project and possible mitigation for such risks.



Asian Development Bank

Date 5 December 2014

To: **Manmohan Parkash**
Advisor, OSFMD and Head, Operations Management Unit, OSOM

From: **Len George**
Energy Specialist, SAEN

Subject: **Registration of TA for TASF Fund Commitment in 2014**

Please register the commitment of funds in the 2014 TASF for the following project:

Country: Bangladesh	Project No.: 44192-017
	Cluster subproject? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Project Name: SASEC Bangladesh India Electrical Grid Interconnection Project II	
Product Name: SASEC Bangladesh India Electrical Grid Interconnection Project II	
Type of TA: <input type="checkbox"/> PPTA <input checked="" type="checkbox"/> CDTA <input type="checkbox"/> PATA <input type="checkbox"/> RDTA	
Amount to be committed from 2014 TASF Budget: \$200000 <input checked="" type="checkbox"/> TASF-Others <input type="checkbox"/> TASF-V <input type="checkbox"/> TASF-IV	Date of concept paper approval:
To be charged against the planning figure of operational group: <input type="checkbox"/> OPR <input type="checkbox"/> OG1 <input type="checkbox"/> OG2 <input type="checkbox"/> KM & SD <input type="checkbox"/> PS & CO <input type="checkbox"/> FR <input type="checkbox"/> AC <input type="checkbox"/> IED	
Notes / Remarks:	

For COSO Use:

Registration No. SARD-C-45/2014

The above technical proposal has been entered in the Registry of Commitment of Funds against the 2014 TA program.

Manmohan Parkash
Advisor, OSFMD and Head, Operations Management Unit, OSOM