



Report and Recommendation of the President to the Board of Directors

Project Number: 46392-001
October 2013

Proposed Grants and Administration of Grant Islamic Republic of Afghanistan: North–South Power Transmission Enhancement Project

CURRENCY EQUIVALENTS

(as of 28 October 2013)

Currency unit	–	afghani (AF)
AF1.00	=	\$0.0175
\$1.00	=	AF57.30

ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
AITF	–	Afghanistan Infrastructure Trust Fund
DABS	–	Da Afghanistan Breshna Sherkat
EIRR	–	economic internal rate of return
EMP	–	environmental management plan
FIRR	–	financial internal rate of return
kV	–	kilovolt
LARP	–	land acquisition resettlement plan
MFF	–	multitranches financing facility
MW	–	megawatt
O&M	–	operation and maintenance
PAM	–	project administration manual
PMO	–	project management office

NOTE

- (i) The fiscal year (FY) of the Government of Afghanistan ends on 20 December. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2012 ends on 20 December 2012.
- (ii) In this report, “\$” refers to US dollars.

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PROJECT AT A GLANCE

1. Project Name: North-South Power Transmission Enhancement Project (formerly Power Distribution Project)		2. Project Number: 46392-001									
3. Country: Afghanistan, Islamic Republic of		4. Department/Division: Central and West Asia Department/Energy Division									
5. Sector Classification:											
	Sectors	Primary	Subsectors								
	Energy	✓	Electricity transmission and distribution								
6. Thematic Classification:											
	Themes	Primary	Subthemes								
	Economic growth	✓	Widening access to markets and economic opportunities								
	Regional cooperation and integration		Trade and investments								
6a. Climate Change Impact		6b. Gender Mainstreaming									
None		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Gender equity theme (GEN)</td> <td style="width: 20%;"></td> </tr> <tr> <td>Effective gender mainstreaming (EGM)</td> <td></td> </tr> <tr> <td>Some gender elements (SGE)</td> <td></td> </tr> <tr> <td>No gender elements (NGE)</td> <td style="text-align: center;">✓</td> </tr> </table>		Gender equity theme (GEN)		Effective gender mainstreaming (EGM)		Some gender elements (SGE)		No gender elements (NGE)	✓
Gender equity theme (GEN)											
Effective gender mainstreaming (EGM)											
Some gender elements (SGE)											
No gender elements (NGE)	✓										
7. Targeting Classification:		8. Location Impact:									
	Targeted Intervention										
General Intervention	Geographic dimensions of inclusive growth	Millennium development goals	Income poverty at household level								
✓											
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">National</td> <td style="width: 30%;">High</td> </tr> <tr> <td>Regional</td> <td>High</td> </tr> <tr> <td>Rural</td> <td>Low</td> </tr> <tr> <td>Urban</td> <td>Low</td> </tr> </table>			National	High	Regional	High	Rural	Low	Urban	Low
National	High										
Regional	High										
Rural	Low										
Urban	Low										
9. Project Risk Categorization: Low Risk											
10. Safeguards Categorization:											
	Environment	B									
	Involuntary resettlement	B									
	Indigenous peoples	C									
11. ADB Financing:											
	Sovereign/Nonsovereign	Modality	Source								
	Sovereign	Grant projects	Asian Development Fund								
	Total		159.0								
			159.0								
12. Cofinancing:											
	Financier	Category	Amount (\$ Million)								
	Afghanistan Infrastructure Trust Fund	Official-Grant	57.0								
	Total		57.0								
13. Counterpart Financing:											
	Source	Amount (\$ Million)									
	Government	4.0									
	Total	4.0									
14. Aid Effectiveness:											
	Parallel project implementation unit	No									
	Program-based approach	No									

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed grant and (ii) a proposed grant and administration of such grant to be provided by the Afghanistan Infrastructure Trust Fund (AITF), both to the Islamic Republic of Afghanistan for the North–South Power Transmission Enhancement Project.¹

2. The proposed project will construct a 500-kilovolt (kV) transmission line about 225 kilometers long across the Hindukush mountain range between the northern town of Dashte Alwan and Kabul at the southern end. It will include a new 500-kV/220-kV substation to connect to the grid in Kabul, Afghanistan’s capital.² The project will be complemented by a second Asian Development Bank (ADB) power project under the proposed tranche 5 of ADB’s Energy Sector Development Investment Program (footnote 2) to build a 500-kV substation to connect to the grid at the northern end of the line in Dashte Alwan. Tranche 5 is expected to be endorsed by ADB Management soon after the ADB Board consideration of the North–South Power Transmission Enhancement Project. After domestic generation projects planned in northern Afghanistan are implemented and proposed arrangements for greater power imports from the country’s northern neighbors are put in place, the projects would transmit the additional power from these sources to the south and allow for the export of power in excess of Afghanistan’s domestic needs to Pakistan over a planned connection between the country’s two grids. The line will also allow Afghanistan to facilitate power export to Tajikistan during winter.

II. THE PROJECT

A. Rationale

3. Afghanistan is a net energy importer. Power demand in major load centers is growing at 25% per year. While indigenous renewable energy and fossil fuels resources exist, these need to be developed. During 2012, peak demand in Afghanistan stood at 670 MW, of which 500 MW was met through imports. With the three times increase in electrification rate anticipated by 2032, peak demand will reach 3,500 MW with an annual power consumption of 18,400 gigawatt-hours. Meeting this demand requires development of all viable import and local generation options. The project will connect northern indigenous generation and imported power supply sources to the eastern and southern load centers in Afghanistan.

4. The power sector in Afghanistan has made significant progress in addressing its technical, fiscal, and governance challenges since 2001. The proportion of the population connected to the power grid increased from a mere 5% in 2002 to about 25% in 2012. System losses (technical and commercial) dropped during the same period from more than 70% to 42%, and collection rates rose from less than 50% to more than 90%. Revenues have increased by 15% every quarter since 2009. An autonomous, corporate state-owned power utility—Da Afghanistan Breshna Sherkat (DABS)—has been established and is gaining ground. Currently, 73% of Afghanistan’s power supplies are being imported—22% from Iran, 4% from Tajikistan, 17% from Turkmenistan, and 57% from Uzbekistan. Import tariffs ranging from \$0.020 to \$0.065 per kilowatt-hour are subsidized by the exporting countries.

¹ The design and monitoring framework is in Appendix 1.

² The project, including 10 other investment projects, was prepared under a subcomponent of ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranches Financing Facility and Administration of Grant Energy Sector Development Investment Program*. Manila (MFF 0026-AFG, \$570 million, approved on 2 December).

5. Afghanistan currently has 10 isolated power grid islands that are fed by different power systems through 220-kV and 110-kV links. This split creates system inefficiencies, increases operational cost, and reduces reliability of power supply. An ADB-supported government strategic power master plan for 2012–2032 calls for the connection of these separate network segments via a ring structure of 500-kV transmission lines and the expansion of distribution networks across urban and rural load centers.³

6. Kabul and provincial capitals in all eastern and southern provinces experience load-shedding due to a power shortage. A key challenge is to strengthen infrastructure capacity needed to transmit power to Afghanistan's eastern and southern provinces, including Kabul. The power imports are expected to grow from 300 MW in 2012 to 600 MW by 2018.⁴ Currently the only transmission link connecting northern Afghanistan to the south is a 220-kV transmission line with a capacity of 300 MW. This limits the supply of power in the areas south of the Hindukush mountain range. This in turn constrains economic growth and opportunities in the south; creates disparities in the country's economic development; and fuels ethnic and regional tensions, insecurity, and discontent.

7. The transmission line and substation to be provided under the project, combined with the substation needed to complete the system to be financed under tranche 5 of the Energy Sector Development Investment Program, will be central to the envisaged regional power trade and Afghanistan's important future role in it as an energy resource corridor connecting Central Asia's power systems with its own and those of South Asia. A proposed Turkmenistan–Uzbekistan–Tajikistan–Afghanistan–Pakistan (TUTAP) power transmission interconnection would boost regional cooperation and integration through this energy trade by enabling exporting countries to make profitable use of their surplus resources and importing countries to effectively meet their energy needs at cost.⁵

8. The project is identified in the power master plan and in the Afghanistan National Energy Supply Program as the link most needed to meet the country's future power needs. The project is connected to upstream power generation and power transmission and downstream power transmission and distribution projects. The power link between Central Asia and South Asia is a strategic objective of the Central Asia Regional Economic Cooperation program countries and is included in the program's Strategy 2020 and energy work plan, 2013–2015. The project is included in ADB's country partnership strategy, 2009–2013⁶ and country operations business plan, 2013–2014 for Afghanistan.⁷

9. DABS has been undertaking a comprehensive program since 2008 to import power, develop domestic generation, and expand its grids to close a gap between demand for power

³ ADB. 2010. *Technical Assistance to Afghanistan for the Power Sector Master Plan*. Manila (TA 7637-AFG, \$1.5 million, approved on 6 November).

⁴ The 220-kV import lines from Tajikistan and Uzbekistan are operational and were financed by ADB under the Emergency Infrastructure Rehabilitation and Reconstruction Project and the Regional Power Transmission Interconnection Project. Under the power purchase and sales agreement, power imports from Tajikistan are up to 300 MW during March–October each year and are up to as 300 MW all year round from Uzbekistan. Afghanistan is currently importing 50 MW of power from Turkmenistan. The new 500-kV transmission line from Turkmenistan, to interconnect power grids of Afghanistan and Turkmenistan, will be completed by 2018 and will import up to 300 MW of power from Turkmenistan.

⁵ TUTAP is a regional power project under Central Asia South Asia Regional Electricity Markets framework.

⁶ ADB. 2007. *Country Partnership Strategy: Afghanistan, 2009–2013*. Manila.

⁷ ADB. 2013. *Country Operations Business Plan: Afghanistan, 2013–2014*. Manila.

and supply.⁸ Afghanistan's National Energy Supply Program is based on plans to combine the development of domestic power generation from domestic fossil fuel and renewable energy with an increase in power imports.⁹ In addition to meeting its domestic needs on time and in a cost-effective manner through diversified imports, Afghanistan also plans to develop a transit transmission system through the country to move power from energy-rich Central Asian countries to consumers in energy-scarce South Asia.

10. The government has developed the country's power sector strategy, road map, policy framework, and envisaged investment plan in line with the power sector master plan 2012–2032. The power master plan builds upon the Afghanistan National Development Strategy crafted in 2008. The power sector in Afghanistan has made substantial progress in meeting strategic objectives and road map milestones set out in 2008, including (i) greater efficiency from existing operations (rehabilitation of hydropower plants and transmission and distribution networks); (ii) improvement in sector governance (formulation of an electricity law, renewable energy policy, and creation of an autonomous power utility); (iii) promotion of rural electrification (development of off-grid solutions and strengthening on-grid networks); and (iv) investments in new capacity (development of additional generation, transmission, and distribution systems). Lessons incorporated from ADB's ongoing investments in Afghanistan's energy sector include the need to (i) build security provisions into project design and financing, (ii) simplify procurement and implementation through use of turnkey contracting as the default choice, (iii) improve project readiness through advance actions, and (iv) provide capacity support to DABS.

11. DABS has institutionalized operations and maintenance (O&M) protocols and systems. An O&M unit under the operations department has been established and strengthened, with adequate budgetary resources allocated from utility's internal revenues. ADB, the World Bank, and the United States Agency for International Development are providing capacity support through training programs. In total, nearly \$45 million of O&M capacity support programs are currently being implemented.

12. Since 2010, the ADB-financed program management and project implementation consultants recruited under ADB's multitranche financing facility (footnote 2) have been providing on-the-job training to DABS personnel in technical, financial management, procurement, and social safeguards areas. In parallel, the Government of the United States is implementing \$200 million in capacity support programs to strengthen DABS' capacity in technical, governance, financial management, and planning functions.

B. Impact and Outcome

13. The impact will be increased power trade between Afghanistan and its neighbors, and a higher rate of electrification within the country. The outcome of the project will be an increased supply of power from the north of Afghanistan to its southern and eastern regions.

C. Outputs

14. The output will be a 500-kV transmission line constructed from Dashte Alwan to Kabul and a 500-kV/220-kV substation built at Arghundy in Kabul.

⁸ The program includes rehabilitation and construction of new hydropower plants in Afghanistan's eastern and southern provinces, gas-powered thermal plants in northern provinces, and diesel-generated plants in major load centers across Afghanistan.

⁹ The National Energy Supply Program is one of 24 national priority programs that have been jointly endorsed by the Government of Afghanistan and the country's international development partners.

15. The project will add up to 1,000 megawatts (MW) to the existing 300 MW of transmission capacity between northern and southern Afghanistan. The new line will transmit power produced domestically by hydropower and fossil fuel generation in the country's northern region, as well as accommodate power imports from neighboring Tajikistan, Turkmenistan, and Uzbekistan to supply Afghanistan's domestic needs.

D. Investment and Financing Plans

16. The project is estimated to cost \$220 million (Table 1).¹⁰

Table 1: Project Investment Plan
(\$ million)

Item	Amount ^a
A. Base costs^b	
1. Turnkey contract	181.00
2. Consulting services ^c	6.00
3. Project security and de-mining	6.00
4. Land acquisition and resettlement	1.64
5. Project management	0.20
Subtotal (A)	194.84
Contingencies^d	23.00
C. Interest charges during construction^e	2.16
Total (A+B+C)	220.00

^a Includes business receipt tax and sales tax of 2% (estimated at \$4.3 million) and customs payments of 10% on imported equipment (estimated at \$10 million), to be financed from ADB grant resources.

^b In 2013 prices.

^c Consulting services include an implementation consultant and an auditor of project accounts.

^d Physical contingencies computed at 10% for civil works and 5% for non-civil works. The following annual inflation rates were factored into the estimates of price contingencies: domestic–5.8% in 2014 and 5.0% in 2015–2017; foreign–2.2% in 2014, 1.9% in 2015, and 1.8% in 2016–2017.

^e Includes interest during construction, calculated at an interest rate of 1% for the loan between the government and Da Afghanistan Breshna Sherkat. Interest during implementation is capitalized in loan.

Source: Asian Development Bank estimates.

17. The Government of Afghanistan requested a grant not exceeding \$159 million from ADB's Special Funds resources to help finance the project.¹¹ The ADB-administered AITF will cofinance, through a \$57 million grant, defined components of the project.¹² ADB and AITF funding for the project includes financing of taxes and duties (including the business receipt tax).¹³ ADB has been financing project taxes and duties in Afghanistan since 2011 and is justified because (i) the amount will not represent an excessive share of the project investment plan, (ii) the taxes and duties apply only to ADB-financed expenditures, and (iii) the financing of the taxes and duties is material and relevant to the success of the project. This is in line with

¹⁰ Detailed cost estimates by expenditure category and detailed cost estimates by financier are included in the project administration manual (PAM) (accessible from the list of linked documents in Appendix 2).

¹¹ A country's eligibility for the ADF grants under the revised grant framework is determined by its risk of debt distress. The latest debt-sustainability analysis determined that Afghanistan had a high risk of debt distress and was therefore eligible to receive 100% of its ADF allocation as grants.

¹² AITF is an ADB-administered fund for infrastructure development financing in Afghanistan. The contributors include the governments of Japan, the United Kingdom, and the United States of America. The AITF financiers have approved and confirmed cofinancing of \$57 million for the project.

¹³ Taxes and duties costs are the business receipt tax, estimated at 2%; the fixed tax on imports of 2%–7%; and custom duties of 2.5%–16%. They do not represent an excessive share of the financing plan and are within applicable country partnership strategy parameters. ADB. 2005. *Innovation and Efficiency Initiative, Cost Sharing and Eligibility of Expenditures for Asian Development Bank Financing: A New Approach*. Manila.

ADB's Operations Manual (H3 on cost-sharing arrangements and eligible expenditures). This is the practice also followed by the World Bank in Afghanistan.

18. The AITF financing will be front-end loaded for disbursement purposes. The government will finance the land acquisition and resettlement costs. The financing plan is in Table 2.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Special Funds resources (grant)	159.0	72.3
Afghanistan Infrastructure Trust Fund ^a	57.0	25.9
Government	4.0	1.8
Total	220.0	100.0

^a Contributors: the governments of Japan, the United Kingdom, and the United States of America.

Sources: ADB estimates, Da Afghanistan Breshna Sherkat.

19. It is anticipated that, by the end of 2013, an additional contribution will be made to AITF in the amount of \$60 million for purposes of financing activities in the power and energy sector. In the event of such additional contribution, it is proposed to substitute \$60 million of the grant from ADB's Special Funds resources for the project with an equivalent amount from AITF, resulting in a reduction in the grant from ADB's Special Funds resources to \$99 million and an increase in the grant from AITF to \$117 million. The Board is requested to approve the proposed additional AITF grant, and administration thereof, in the event that such additional funds are contributed to AITF.¹⁴ Application of such additional AITF funds to the project shall be reported to the Board in accordance with standard reporting procedures.

E. Implementation Arrangements

20. DABS will be the executing agency. It is a 100% state-owned corporate entity responsible for power generation, transmission, and distribution in Afghanistan. DABS was incorporated in March 2008 and operationalized on 30 September 2009 through a presidential decree. DABS is the legal successor to all rights and obligations of Da Afghanistan Breshna Mousasa.

21. DABS has an established, full-time program management office (PMO) that administers the ADB-assisted Energy MFF (footnote 2). The PMO administers all consulting and procurement contracts and is responsible for preparing project plans, bid evaluation reports, progress reports, applications for withdrawal of funds, and any other reports required by ADB. The PMO has 30 personnel. The staff comprises a project director, engineers, procurement specialists, financial specialists, and safeguards specialists.

22. The project's turnkey transmission line and substation package and the implementation supervision consulting package will be cofinanced, with AITF funds being front-end loaded for disbursement purposes for both the turnkey and consulting services contracts. Asian Development Fund (ADF) resources will be disbursed only after 100% of the AITF funds have been disbursed. It is expected that AITF funds will finance the first \$54.0 million of the turnkey contract and the first \$3.0 million a project supervision consultancy contract, with ADB financing

¹⁴ By a letter dated 23 October 2013, the Government of Afghanistan agreed to such substitution of financing for the project in the event of such additional AITF contribution.

the remaining components. The use of contingency funds will follow the same disbursement procedure.

23. Procurement of works and goods to be financed under the project will be undertaken in accordance with ADB's Procurement Guidelines (2013, as amended from time to time). International competitive bidding will be used for the 500-kV transmission line and the 500-kV/220-kV substation turnkey contract package, comprising two lots: one for transmission line component and one for the substation component.

24. All consultants will be engaged in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). A consulting firm will be recruited using quality- and cost-based selection under a full technical proposal. This is required due to the complex nature of the consulting tasks and the critical nature of the project's projected downstream impact.

25. ADB will disburse the funds for the turnkey contract package through direct payment and commitment procedures.

26. The implementation arrangements are summarized in Table 3 and described in detail in the PAM (Appendix 2).¹⁵

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	April 2014–December 2016		
Estimated completion date	31 December 2016		
Management			
(i) Oversight body	Ministry of Finance		
(ii) Executing agency	Da Afghanistan Breshna Sherkat (DABS)		
(iii) Implementation unit	Program Management Office established in DABS, with 30 staff members		
Procurement ^a	International competitive bidding (single-stage, two-envelope)	1 contract with 2 lots	\$181 million
Consulting services	Quality- and cost-based selection	219 person-months	\$6 million
Retroactive financing and/or advance contracting	Implementation consultant and contractor will be engaged under advance contracting. Retroactive financing is not required.		
Disbursement	The grant proceeds will be disbursed in accordance with ADB <i>Loan Disbursement Handbook</i> (2012, as amended from time to time) and detailed arrangements agreed upon between the government and ADB. Direct payment and commitment procedures will be used for all expenditure categories.		

^a The project is eligible for universal procurement under ADB's procurement guidelines. Source: Asian Development Bank.

III. DUE DILIGENCE

A. Technical

27. An international consulting firm was recruited by the executing agency under the project preparatory component¹⁶ of ADB's Energy Sector Development Investment Program (footnote

¹⁵ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

2). The consultant firm undertook due diligence of the proposed transmission line and the substation project. The firm confirmed that forecast demand and export potential justified the construction of the 500-kV transmission line and a 500-kV/220-kV substation, and that the linking upstream and downstream investments were adequate.¹⁷ Firms qualified to perform the turnkey contract are available in the international market. The turnkey contractor will train DABS staff in operation and maintenance.

28. ADB conducted technical due diligence on the proposed project and is satisfied with the quality of the cost estimates, operating cost structures, appropriateness of the technology, and the execution plan. The project readiness level is high, and the technical solutions proposed are considered to be more cost-effective than the alternatives.

B. Economic and Financial

29. The economic and financial analysis considered the 500-kV transmission line and the 500-kV/220-kV substation at Dashte Alwan of the project, together with the 500-kV substation at the Arghundy end of the line expected to be financed under the MFF, as one undertaking. While financed separately under two ADB interventions, the three individual power system components—the transmission line and the two end-line substations—are complementary, interdependent and mutually inclusive, and will produce overall incremental benefits as a whole that cannot be broken down financially or economically into parts.

30. The analysis found the financial internal rate of return (FIRR) under the base case to be 8.97%. Based on sensitivity testing, the FIRR remained at 7.32% under a scenario of a 20.00% increase in estimated capital costs. The FIRR decreased to 6.26% if the line capacity was only 80.00% used due to lower-than-expected demand development. The FIRR was 8.37% with an increase of 20.00% in estimated O&M costs. These FIRRs are higher than the estimated weighted average cost of capital of 0.87%. The results of the sensitivity analysis indicated that the financial viability of the project would remain robust under adverse conditions.

31. The analysis showed a base case economic internal rate of return (EIRR) of 26.19%. The EIRR was also robust under the adverse conditions projected by sensitivity analysis. An increase in estimated capital costs by 20.00% reduced the EIRR to 22.88%, still well above the 12.00% benchmark. The EIRR remained well over 12.00% with a 20.00% decrease in estimated energy transmission and with a 20.00% increase in projected O&M costs. If willingness-to-pay was measured with the long-run marginal cost as a basis, the EIRR would increase to 41.57%.

C. Governance

32. ADB's financial management assessment of DABS found that it follows accrual accounting, double-entry bookkeeping, and other generally accepted accounting principles and conventions in compliance with international standards. Its annual financial statements for the first 3 years, FY2010–FY2012, have been audited and considered acceptable by ADB. Project financial statements for ADB-financed projects have been prepared, audited, and submitted to ADB on time since 2010.

¹⁶Tranche 1 had a component for conducting due diligence and preparing future projects listed under the government's national priority program for the energy sector.

¹⁷The 500-kV/220-kV substation at the northern end of the 500-kV transmission line is to be financed under tranche 5 (\$49.1 million) of the multitranche financing facility (MFF-0026). Tranche 5 is being processed in parallel with this project.

33. To continue improving the corporate and financial management capacities of DABS and to ensure appropriate governance arrangements for project-related activities, the project will
- (i) make use of the existing PMO and maintain separate project accounts,
 - (ii) recruit an international consulting firm to assist in project implementation,
 - (iii) establish a direct payment procedure and/or commitment procedure for disbursements to contractors and consultants, and
 - (iv) require that an independent auditor acceptable to ADB be engaged by DABS to audit project and corporate financial statements annually in accordance with applicable ADB requirements.
34. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and DABS. The specific policy requirements and supplementary measures are described in the PAM (footnote 15).

D. Poverty and Social

35. The project does not entail direct impacts on affordability or operational employment opportunities. During construction, the contractor will be required to ensure equal opportunities for all social groups, equal pay for equal work regardless of gender, and prohibition of child labor.

36. The project has no gender elements, therefore, gender monitoring is not required.

E. Safeguards

37. The project is classified category B for environment. DABS prepared an initial environmental examination (IIE) report, including an environmental management plan (EMP) in accordance with ADB's Safeguard Policy Statement (2009). The environmental impacts anticipated during the construction are site-specific and temporary and can be mitigated through implementation of the EMP. Potential environmental impacts of the project during operations include fragmentation of the bird habitats and the electrocution or injury of birds through collision and contact with wires in the vicinity of Salang-Kotal bird habitat. The EMP mitigation measures are adequate and include the careful routing of the transmission line to be undertaken during detailed design, which will consider a baseline ornithological survey in the vicinity of Salang-Kotal bird habitat; specially designed poles, conductors, and insulators; and the provision of bird diverters. The draft initial environmental examination report was disclosed on the ADB's website on 23 August 2013. The current security situation along the line route has made it difficult to consult effectively with communities. The public consultations will be conducted and the IIE and EMP updated prior to construction. Implementation of the EMP will be reported through environmental monitoring reports, which will be submitted to ADB semiannually. Environmental specialists of the implementation consultant will provide additional support to the PMO.

38. The project is category C for indigenous peoples. The field social survey found that no ethnic minority, as defined by ADB's Safeguard Policy Statement (2009), will be involved in or affected by the project. The project is category B for involuntary resettlement. Based on the preliminary project design, a land acquisition and resettlement plan (LARP) has been prepared in close consultation with 12 affected households. It was disclosed on ADB's website on 22 August 2013, in accordance with ADB's Safeguard Policy Statement. A detailed socioeconomic survey was carried out in May 2013. Once the contractor completes the detailed design, DABS will update the LARP and submit it to ADB for approval. No civil works will start until the LARP is

fully implemented by DABS. The transmission line will run mainly through government land along the existing 220-kV transmission line. The substation site is owned by the government.

39. Implementation of the LARP will be monitored semiannually and a report will be submitted to ADB. The report will include the number of affected households that have been paid compensation, the amount paid, and the locations where compensation was completed and structures demolished, if any.

40. ADB will review the periodic environment and resettlement monitoring reports submitted semiannually by DABS during project construction. DABS will develop and implement an appropriate corrective action plan agreed upon with ADB to rectify any default on the safeguard requirements covenanted in the legal agreements or any other failure to comply with safeguards. The environment and resettlement monitoring reports and any corrective action plan submitted by DABS during project implementation will be disclosed on ADB's website upon receipt. ADB's monitoring and supervision activities will continue until a project completion report is issued.

F. Risks and Mitigating Measures

41. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.¹⁸

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Procurement and implementation of turnkey contract could be delayed.	Procurement packaging will be minimized with one implementation consultant package and one turnkey contract package. International consulting firms will be recruited to help DABS in the procurement of the turnkey contract and in supervising project implementation.
Governance and capacity issues could negatively affect the project.	All procurement and consultant recruitment will require prior approval by ADB. Procurement oversight will be complemented by a credible protest review mechanism and access to procurement-related information on the DABS and ANDS websites. The procurement and financial management reviews by ADB and other development partners have confirmed that adequate systems have been institutionalized. DABS is gaining financial autonomy and has an independent board. Internal audit system is being strengthened by USAID intervention. Under its ongoing MFF since 2009, ADB is providing extensive capacity support to DABS to improve its technical, financial/ economic, social safeguards, and procurement functions. This has strengthened the project preparation and implementation areas.
Executing agency's non-experience with 500-kV technology.	Sufficient technical training is being imparted to DABS by other development partners and by ADB. The training will be provided during project design and implementation by the contractor. This will be the second 500-kV line in Afghanistan and the first one is under procurement under another project.
The project could encounter cost overruns.	The cost estimates are consistent with the engineers' design and recent turnkey contract awards. Adequate contingency is provided in the project financing plan.
Difficult security environment could affect procurement of quality contractors/consultants and thereby delay project implementation.	While security remains a key concern, experience in attracting qualified bidders and in implementing similar projects indicates the project can be successfully implemented. Adequate funds have been budgeted for security and demining activities during project construction and implementation. The turnkey contractor will prepare the project security plan which will be endorsed by the consultant, government and ADB

ADB = Asian Development Bank, ANDS = Afghanistan National Development Services, DABS = Da Afghanistan Breshna Sherkat, kV = kilovolt, MFF = multitranché financing facility, O&M = operation and maintenance, USAID = United States Agency for International Development.

Sources: Afghanistan Energy Information Center, Quarterly Reports of the Inter-Ministerial Commission for Energy.

¹⁸ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

IV. ASSURANCES AND CONDITIONS

42. The government and DABS have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents.

43. The government and DABS have agreed with ADB on certain covenants for the project, which are set forth in the grant agreements and project agreement.

44. The ADF and AITF grant agreements will not be effective until, among others, (i) the subsidiary loan agreement between Afghanistan and DABS, under which the proceeds of both the ADF and AITF grants will be relent to DABS, shall have been executed and become effective in accordance with its terms; and (ii) the grant agreement for the tranche 5 project of the Energy Sector Development Investment Program shall have been executed and become effective in accordance with its terms.

V. RECOMMENDATION

45. I am satisfied that the proposed grant would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

- (i) the grant not exceeding \$159,000,000 to the Islamic Republic of Afghanistan, from ADB's Special Funds resources, for the North–South Power Transmission Enhancement Project, on terms and conditions that are substantially in accordance with those set forth in the draft grant (Special Operations) and project agreements presented to the Board,
- (ii) the grant not exceeding the equivalent of \$57,000,000 to the Islamic Republic of Afghanistan, to be provided by the Afghanistan Infrastructure Trust Fund (AITF), for the North–South Power Transmission Enhancement Project, and the administration by ADB of such grant, on terms and conditions that are substantially in accordance with those set forth in the draft grant (Externally Financed) and project agreements presented to the Board, and
- (iii) in the event of an additional contribution to AITF of not less than \$60,000,000, the grant not exceeding the equivalent of such amount from AITF to the Islamic Republic of Afghanistan for the North–South Power Transmission Enhancement Project, and the administration by ADB of such grant, and the corresponding reduction in the grant from ADB's Special Funds resources referred to in subparagraph (i) above, in accordance with the proposal set out in paragraph 19 of this report.

Takehiko Nakao
President

30 October 2013

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>Impact Increased power trade between Afghanistan and its neighbors, and a higher rate of electrification within the country</p>	<p>Power imports increased from 550 MW in 2011 to 800 MW in 2020</p> <p>Power exports increased from 0 MW in 2012 to 50 MW in 2020</p> <p>Electrification rate in Afghanistan increased from less than 25% in 2012 to 40% in 2020</p>	<p>Afghanistan CSO publications</p> <p>DABS annual report</p> <p>Publications by international development partners</p> <p>AEIC online reports</p>	<p>Assumptions Governments remain committed to regional power trade</p> <p>Tariff is raised to reflect costs, and billing and revenue collection improve</p> <p>Power transmission lines from importing countries are made operational</p> <p>Power purchase and sales agreements are enforced and implemented</p> <p>Risk Political stability and security deteriorate</p>
<p>Outcome Supply of power from the north of Afghanistan to the south and east increased</p>	<p>NEPS transmission capacity increases from 150 MW in 2009 to 1,000 MW of connected load by 2018</p> <p>Power shortfall in Kabul reduced from 100 MW in 2013 to 50 MW in 2018</p>	<p>Afghanistan CSO publications</p> <p>Publications by international development partners</p> <p>DABS annual report</p> <p>AEIC online reports</p>	<p>Assumption Power infrastructure in Afghanistan is adequately operated and maintained</p> <p>Risk Political stability and security environment in Afghanistan deteriorates</p>
<p>Outputs A 500-kV transmission line from Baghlan to Kabul (Dashte Alwan to Arghundy) commissioned, including a 500-kV/220-kV substation in Arghundy, Kabul</p>	<p>New 500-kV transmission line of 225 km from Baghlan to Kabul installed by 2018</p> <p>New 500-kV/220-kV substation in Arghundy operational by 2018</p> <p>Transmission flow capacity between north and south Afghanistan increased from 300 MW in 2012 to 1,300 MW by 2018</p>	<p>Afghanistan CSO publications</p> <p>DABS annual report</p> <p>Publications by international development partners</p> <p>DABS' project completion reports</p> <p>AEIC online reports</p>	<p>Assumptions Costs related to security and social safeguards remain manageable</p> <p>Associated NEPS infrastructure is funded, well-maintained, and kept operational</p> <p>Risk Contractors lack interest in implementing power projects in Afghanistan</p>

Activities with Milestones	Inputs
<ol style="list-style-type: none"> 1. 500-kV Dashte Alwan–Kabul transmission line and substation at Arghundy installed (Q4 2016) <ol style="list-style-type: none"> 1.1 Project preparation consultants recruited and fielded in Afghanistan by 31 March 2013 (Q1 2013) 1.2 Feasibility studies completed by 30 September 2013 (Q3 2013) 1.3 Bidding document for EPC contract finalized by 30 November 2013 (Q4 2013) 1.4 Contractor and project supervision consultant mobilized (Q2 2014) 1.5 500-kV Dashte Alwan–Kabul transmission line and substation at Arghundy commissioned by 30 June 2017 (Q2 2017) 	<p>Grant ADB: \$159.0 million AITF: \$57.0 million^a Government: \$4.0 million</p>

ADB = Asian Development Bank, AEIC = Afghan Energy Information Center, AITF = Afghanistan Infrastructure Trust Fund, CSO = Central Statistical Organization, DABS = Da Afghanistan Breshna Sherkat (Afghanistan's state-owned power utility), EPC = engineering procurement and construction, kV = kilovolt, MW = megawatt, NEPS = North East Power System.

^a Contributors: the governments of Japan, the United Kingdom, and the United States of America.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=46392-001-2>

1. Grant Agreement: Special Operations
2. Grant Agreement: Externally Financed
3. Project Agreement
4. Sector Assessment (Summary)
5. Project Administration Manual
6. Contribution to the ADB Results Framework
7. Development Coordination
8. Economic and Financial Analysis
9. Country Economic Indicators
10. Summary Poverty Reduction and Social Strategy
11. Initial Environmental Examination
12. Resettlement Plan
13. Risk Assessment and Risk Management Plan

Supplementary Documents

- A. Financial Management Assessment
- B. Risk Assessment on Governance of the Power Sector
- C. Pre-Design Report