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May 13, 2019

Closing Date: Friday, May 31, 2019
at 6:00 p.m.

FROM: Vice President and Corporate Secretary

Pakistan

Central Asia South Asia Electricity Transmission and Trade Project

Additional Financing

Project Paper

Attached is the Project Paper regarding a proposed additional credit to Pakistan for the Central Asia South Asia Electricity Transmission and Trade Project (IDA/R2019-0144), which is being processed on an absence-of-objection basis.

Distribution:
Executive Directors and Alternates
President
Bank Group Senior Management
Vice Presidents, Bank, IFC and MIGA
Directors and Department Heads, Bank, IFC, and MIGA

Document of

The World Bank

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Report No: PAD3180

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A

PROPOSED ADDITIONAL CREDIT

IN THE AMOUNT OF SDR46.90 MILLION
(US$65 MILLION EQUIVALENT)

TO THE

ISLAMIC REPUBLIC OF PAKISTAN

FOR THE

CENTRAL ASIA SOUTH ASIA ELECTRICITY TRANSMISSION AND TRADE PROJECT

MAY 8, 2019

ENERGY & EXTRACTIVES GLOBAL PRACTICE
SOUTH ASIA REGION

CURRENCY EQUIVALENTS

(Exchange Rate Effective March 31, 2019)

Currency Unit =	Pakistani Rupee (PKR)
US$ 1 =	PKR 140.80
US$ 1=	SDR 0.72

FISCAL YEAR
July 1 – June 30

Regional Vice President:	Hartwig Schafer
Country Director:	Patchamuthu Illangovan
Senior Global Practice Director:	Riccardo Puliti
Practice Manager:	Demetrios Papathanasiou
Task Team Leader(s):	Husam Mohamed Beides, Anh Nguyet Pham, Fowzia Hassan

ABBREVIATIONS AND ACRONYMS

AF	Additional Financing
CASA	Central Asia South Asia
CPS	Country Partnership Strategy
CSP	Community Support Program
DABS	Da Afghanistan Breshna Sherkat (national transmission company)
DFIL	Disbursement Financial Information Letter
DTLP	Dasu Transmission Line Project
EIRR	Economic Internal Rate of Return
EPC	Engineering, Procurement, and Construction
ESIA	Environmental and Social Impact Assessment
ESIC	Environmental and Social Impact Cell
FIRR	Financial Internal Rate of Return
FM	Financial Management
FY	Fiscal Year
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GoP	Government of Pakistan
GRM	Grievance Redress Mechanism
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IDA	International Development Association
IFR	Interim Financial Report
IGC	Inter-Government Council
IsDB	Islamic Development Bank
ISR	Implementation Status and Results Report
JWG	Joint Working Group
MDTF	Multi Donor Trust Fund (CASA-1000)
NTDC	National Transmission and Despatch Company (Pakistan)
NTMP-1	National Transmission Modernization Project 1
OE	Owner's Engineer
O&M	Operations and Maintenance
PAD	Project Appraisal Document
PDO	Project Development Objective
PMU	Project Management Unit
PPA	Power Purchase Agreement
RAP	Resettlement Action Plan
T&D	Transmission and Distribution
WACC	Weighted average cost of capital
WAPDA	Water and Power Development Authority

South Asia
Additional Financing for the Central Asia South Asia Electricity Transmission and Trade Project
(P167898*)*

TABLE OF CONTENTS

BASIC INFORMATION – PARENT (Central Asia South Asia Electricity Transmission and Trade Project (CASA-1000) - P145054)

Country	Product Line	Team Leader(s)		
South Asia	IBRD/IDA	Husam Mohamed Beides		
Project ID	Financing Instrument	Resp CC	Req CC	Practice Area (Lead)
P145054	Investment Project Financing	GEE06 (9260)	SACPK (1539)	Energy & Extractives

Implementing Agency: Da Afghanistan Breshna Sherkat, National Electric Grid of Kyrgyzstan, Barki Tajik, National Transmission and Despatch Company (NTDC)

Is this a regionally tagged project?				

Bank/IFC Collaboration			Joint Level	
Yes			Complementary or Interdependent project requiring active coordination	
Approval Date	Closing Date		Original Environmental Assessment Category	Current EA Category
27-Mar-2014	31-Mar-2023		Full Assessment (A)	Full Assessment (A)

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach [MPA]	[ ] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[✓] Fragile State(s)
[ ] Disbursement-Linked Indicators (DLIs)	[✓] Small State(s)
[ ] Financial Intermediaries (FI)	[✓] Fragile within a Non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made disaster
[ ] Alternate Procurement Arrangements (APA)	

Development Objective(s)

The objective of the project is to create the conditions for sustainable electricity trade between the Central Asian countries ofTajikistan and Kyrgyz Republic and the South Asian countries of Afghanistan and Pakistan.

Ratings (from Parent ISR)

	Implementation					Latest ISR
	04-Jan-2016	08-Nov-2016	07-Jun-2017	21-Dec-2017	27-Jun-2018	22-Dec-2018
Progress towards achievement of PDO	S	MS	MS	MS	MS	MS
Overall Implementation Progress (IP)	MS	MS	MS	MS	MS	MS
Overall Safeguards Rating						
Overall Risk	H	H	H	H	H	H

BASIC INFORMATION – ADDITIONAL FINANCING (Additional Financing for the Central Asia South Asia Electricity Transmission and Trade Project - P167898)

Project ID	Project Name	Additional Financing Type	Urgent Need or Capacity Constraints
P167898	Additional Financing for the Central Asia South Asia Electricity Transmission and Trade Project	Cost Overrun	No
Financing instrument	Product line	Approval Date	
Investment Project Financing	IBRD/IDA	30-May-2019	
Projected Date of Full Disbursement	Bank/IFC Collaboration	Joint Level	

31-Jul-2023	Yes	Complementary or Interdependent project requiring active coordination	
Is this a regionally tagged project?		Country (ies)	
Yes		Afghanistan, Kyrgyz Republic, Pakistan, Tajikistan	

Financing & Implementation Modalities

[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Disbursement-Linked Indicators (DLIs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a Non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made disaster
[ ] Alternate Procurement Arrangements (APA)	
[ ] Contingent Emergency Response Component (CERC)	

Disbursement Summary (from Parent ISR)

Source of Funds	Net Commitments	Total Disbursed	Remaining Balance	Disbursed
IBRD				%
IDA	526.50	78.62	398.75	16 %
Grants	3.25	2.02	1.23	62 %

PROJECT FINANCING DATA – ADDITIONAL FINANCING (Additional Financing for the Central Asia South Asia Electricity Transmission and Trade Project - P167898)

FINANCING DATA (US$, Millions)

SUMMARY (Total Financing)

	Current Financing	Proposed Additional Financing	Total Proposed Financing

Total Project Cost	1,126.50	65.00	1,191.50
Total Financing	1,126.50	65.00	1,191.50
of which IBRD/IDA	526.50	65.00	591.50
Financing Gap	0.00	0.00	0.00

DETAILS - Additional Financing

World Bank Group Financing

International Development Association (IDA)	65.00
IDA Credit	65.00

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
Pakistan	65.00	0.00	0.00	65.00
Regional	65.00	0.00	0.00	65.00
Total	**65.00**	**0.00**	**0.00**	**65.00**

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any other Policy waiver(s)?

[ ] Yes [✓] No

INSTITUTIONAL DATA

Practice Area (Lead)

Energy & Extractives

Contributing Practice Areas

Social, Urban, Rural and Resilience Global Practice

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

Gender Tag

Does the project plan to undertake any of the following?

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF

Yes

b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment

Yes

c. Include Indicators in results framework to monitor outcomes from actions identified in (b)

No

PROJECT TEAM

Bank Staff

Name	Role	Specialization	Unit
Husam Mohamed Beides	Team Leader (ADM Responsible)	Lead Energy Specialist	GEE03
Anh Nguyet Pham	Team Leader	Senior Energy Specialis	GEE06
Fowzia Hassan	Team Leader	Sneior Energy Specialist	GEE06
Uzma Sadaf	Procurement Specialist (ADM Responsible)	Procurement	GGOPZ
Michael Graeme Osborne	Procurement Specialist	Procurement	GGOPZ
Noureen LNU	Financial Management Specialist (ADM Responsible)	Financial Management	GGOAP
Victor Manuel Ordonez Conde	Financial Management Specialist	Senior Finance Officer	WFACS
Ahmad Imran Aslam	Environmental Specialist (ADM Responsible)	Environmental Safeguards	GENMS
Abdul Manaf	Team Member	Team Support	SACPK
Alexey Nickolaevich Morozov	Team Member	Operations Support	GEE06

Amna W. Mir	Team Member	Team Support	SACPK
Anjum Ahmad	Team Member	Operations Support	GEE06
Anthony Granville	Team Member	Power Engineer	GEE06
Brenda M. Manuel	Team Member	Trust Fund Management	GEEES
Christina Jutta Paul	Team Member	Financial Lawyer	GIPFS
Denise Kassab	Team Member	Consultant	EAPOS
Dung Kim Le	Team Member	Team Support	GEE03
Emcet Oktay Tas	Team Member	CSP Team Lead	GSU06
Imran-ul Haq	Social Specialist	Sr. Social Development Specialist	GSU06
Joerie Frederik de Wit	Team Member	Economist	GEEES
Junko Funahashi	Counsel	Project Counsel	LEGES
Maha Ahmed	Team Member	CSP Team Member	GFA06
Mats Johan Rikard Liden	Team Member	Country Coordinator	GEE06
Mohammad Saqib	Team Member	Corporate Finance	GEE06
Nikolai Soubbotin	Team Member	Legal Consultant	LEGES
Robert Schlotterer	Team Member	Guarantee	GGCAG
Ruxandra Costache	Team Member	Counsel	LEGLE
Salma Omar	Social Specialist	Sr. Social Development Specialist	GSU06
Shaukat Javed	Team Member	Team Support	GEE06
Takhmina Mukhamedova	Team Member	Energy Specialist	GEE03

Extended Team

Name	Title	Organization	Location

I. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

A. Introduction

1. This Project Paper seeks the approval of the Board of Executive Directors for a proposed additional IDA Credit, from IDA's Regional Program, for Pakistan in the amount of SDR 46.90 million (US$65 million equivalent) to the Pakistan part of the Central Asia South Asia Electricity Transmission and Trade Project (P145054) (CASA-1000 Project). The proposed additional financing, herein refered to as "AF for CASA 1000 (Pakistan)," would fund a financing gap for the committed contracts for goods, works, and services for Pakistan.

2. The proposed AF for CASA 1000 (Pakistan) will help to close the financing gap of the committed contracts for goods, works, and services for the Pakistan High Voltage Direct Current (HVDC) converter station to allow Pakistan's National Transmission and Despatch Company (NTDC), the implementing entity, to complete the Pakistan infrastructure part of the regional CASA-1000 Project on time. This requirement was identified early on during the preparation of the Pakistan part of the project. At the time, the Bank agreed to revisit the financing requirement once the bidding process for the HVDC converter station was complete and actual costs were finalized and known. Without the additional financing (AF), NTDC may not be able to mobilize adequate financing from the market, or in sufficient time, to meet its contractual commitments and commercial agreements with other CASA-1000 countries.

3. No changes to the original Project Development Objective (PDO) or original design are proposed. The PDO is to create the conditions for sustainable electricity trade between the Central Asian countries of Tajikistan and Kyrgyzstan and the South Asian countries of Afghanistan and Pakistan. The AF for CASA 1000 (Pakistan) would fund the financing gap for the original project under Component A: Construction of a High Voltage Transmission Infrastructure, specifically Component A.2, and Component B: Technical Assistance and Project Implementation Support. Most of the technical assistance activities will involve capacity building and project support for contract management, communications, legal and financial management, and environmental and social safeguards management, including capacity building in implementing the Environmental & Social Impact Assessment (ESIA) and Resettlement Action Plans (RAPs). All activities are expected to be completed by the current closing date of the CASA-1000 Project, March 31, 2023. No changes to the Results Framework indicators are proposed.

Country Context

4. **Pakistan, the sixth most populous country in the world, is at a crossroads.** The economy accelerated with GDP growth of 5.8 percent in FY18 but is projected to slow to 3.4 percent in FY19 as fiscal and external imbalances are addressed. Poverty declined from 64.3 percent in 2001 to 24.3 percent in 2015, but inequality persists. The country ranks low on the 2018 Human Capital Index, at 134 out of 157 countries. Gender disparities continue, and female labor force participation was only 20.1 percent in 2018. Natural disasters and unreliable water and power supply constrain progress. After the onset of another boom and bust cycle, a new IMF program is under discussion. Growth is expected to gradually recover as structural reforms take effect and macroeconomic conditions improve. Pakistan will need to protect its poor and those just above the poverty line in the next few years through targeted safety nets. Over the medium to long term, Pakistan needs to invest more and better in human capital, raise more revenue, simplify ease of doing business, expand regional trade and exports, and manage its natural endowments sustainably.

5. **Pakistan is a federation, with responsibilities shared between the federal and four provincial governments.** The 18th amendment to the constitution of Pakistan (2010) expanded powers and devolved delivery of key services to the provinces. The federal government retains core or shared responsibility for functions including tertiary education, tax and trade policy regulation, and transmission and distribution of power. The World Bank works with both federal and provincial governments and their entities.

Sectoral and Institutional Context

6. In the early 1990s Pakistan was one of the first countries to reform its power sector. The first stages of reform aimed to attract private investment into the generation segment and were initially highly successful. The Government also unbundled the Power Wing of the Water and Power Development Authority (WAPDA), which had been a publicly owned, vertically integrated monopoly with responsibility for generation, transmission, and distribution: four thermal generation companies and eight distribution companies were formed, and the large hydropower assets remained with WAPDA. The NTDC was established as the single buyer of electricity and the transmission network owner and system operator. The National Electric Power Regulatory Authority was also set up, with responsibility for licensing, determining tariffs, creating standards, and monitoring sector performance. Under the 18th Amendment to the Constitution, the provinces may generate, transmit, and distribute power within their territorial jurisdiction, although their use of these powers has so far been limited.

7. About 8,000 MW of generation have been added in Pakistan since 2016, but supply deficits persist because of the transmission and distribution network constraints and the power sector's growing financial deficit. Thus, although Pakistan has dependable capacity of 30,590 MW against peak demand that amounted to about 25,000 MW during the maximum demand summer period of 2018, the actual supply-demand gap remained around 4,000 MW compared to about 5,000-6,000 MW a year ago. In the three months between September and December 2018, payables to power producers increased from PKR 670 billion to PKR 800 billion. When combined with PKR 600 billion in outstanding loans to clear some past arrears, total power sector liabilities are estimated to be around PKR 1.4 trillion—equivalent to about 20 months of power purchase cost. The increasing level of arrears affects not only generation but also the investments needed to upgrade and expand the transmission and distribution network, thus compounding the problem. In addition, the demand projections are suppressed because at 500 kWh per capita, Pakistan's electricity consumption is about one-fourth of that in the middle-income and one-seventh of that in the upper middle-income countries. If Pakistan is to achieve a GDP growth rate of 7 percent to reach middle-income status, its electricity supply should increase by about 10 percent[1] and should be reliable and cost-effective. For this to happen, low-cost supply needs to be added (the Government plans to add about 18,000 MW by 2028; however, it is estimated that about twice as much will be required to meet the 10 percent growth in demand and to retire some of the high-cost inefficient thermal plants), and the transmission and distribution system needs to be expanded and modernized. The Bank is supporting the GoP to improve the existing transmission constraints through the National Transmission Modernization Project 1 (NTMP-1) in the amount of US$ 425 million.

8. Given this context, the CASA-1000 Project is seen as a "win-win" proposition. Its economic viability derives from utilizing a currently missed opportunity for regional energy trade and from supplying clean electricity during summer peak demand, replacing more expensive generation based on imported fuel.

[1] According to NTDC's supply demand forecast – high growth scenario, for every 1 percent growth in GDP electricity supply increased by about 1.4 percent.

Furthermore, by establishing a third-party open access regime, the CASA-1000 Project could enable other suppliers to take advantage of unused transmission capacity to access electricity markets in the CASA-1000 countries during the non-supply period. Therefore, the project is expected to (i) alleviate summer electricity shortages in Pakistan and reduce the country's dependence on costly and polluting oil-based generation; and (ii) set the stage for expanded energy trade between Central Asia and South Asia.

The CASA-1000 Project

9. The total cost of the CASA-1000 Project at appraisal was US$1,170 million (see Table 1), of which the Bank's financing is the equivalent of US$526.5 million provided to the four CASA-1000 countries (Afghanistan, Kyrgyz Republic, Pakistan, Tajikistan). Cofinanciers include the Islamic Development Bank (IsDB) (US$155 million), the European Investment Bank (US$180 million), and the European Bank for Reconstruction and Development (US$110 million). The World Bank-managed Afghanistan Reconstruction Trust Fund committed to US$40 million in cofinancing to the project. Bilateral financing is provided by the United States Agency for International Development (US$11.5 million) and the UK Department for International Development, mainly through the CASA Multidonor Trust Fund (MDTF), in the amount of US$46 million.[2] The remaining amount of $101 million being recipient funding. The International Finance Corporation (IFC) has also acted as an advisor on behalf of CASA countries for the procurement and selection of the infrastructure contracts and Owner's Engineers.

10. The CASA-1000 Project is implemented by the national transmission companies of the four countries: (i) Da Afghanistan Breshna Sherkat (DABS) in Afghanistan; (ii) Joint Stock Company National Electric Grid of Kyrgyzstan in the Kyrgyz Republic; (iii) Open Joint Stock Holding Company Barki Tajik in Tajikistan; and (iv) NTDC in Pakistan.

11. For Pakistan's part of the CASA-1000 Project, the estimated cost for the three components was US$232 million. The Bank and IsDB are financing SDR78.3 million (equivalent to US$120 million in 2014) and US$35 million, respectively, to support Component A, and US$2 million was expected from bilateral donors (CASA MDTF) for Components B and C. The total financing secured, US$157 million, left a gap of US$75 million.

Table 1. CASA-1000 project overall costs at appraisal (US$ millions)

	Country	Afghanistan	Pakistan	Tajikistan	Kyrgyz Republic	Total Project
A	**Construction of a High Voltage Transmission Infrastructure**	**242**	**159**	**240**	**160**	**801**
B	**Technical Assistance & Project Implementation Support**	**8**	**7**	**8**	**7**	**30**
C	**Community Support Program**	**40**	**10**	**10**	**10**	**70**
	Environmental and social costs	13	3	3	1	20
	Total base costs	**303**	**179**	**261**	**178**	**921**
	Contingencies	61	24	36	24	145
	Taxes and IDC	40	29	4	31	104
	Total project cost	**404**	**232**	**301**	**233**	**1170**

[2] In this paragraph, all financing amounts are based on exchange rates at approval of each financing.

12. **CASA-1000 Project implementation progress.** The overall implementation progress has been rated Moderately Satisfactory for the past 12 months. The project experienced significant delays at the start of implementation because inadequate market responses received on the procurement package for the three HVDC converter stations in Tajikistan, Pakistan, and Afghanistan – the most critical infrastructure packages of the project. Once the technical configuration[3] of the CASA HVDC facilities was modified, the procurement process for the converter station package was relaunched. The project became effective on January 24, 2018. The initial delays resulted in a shift in the project's key milestones, prompting the CASA-1000 countries to request the Bank to consider an extension of the project's closing date and revision to dated covenants. Since effectiveness, all four countries have made considerable progress in implementation. On September 21, 2018, during the meeting of the Intergovernmental Council (IGC) in Almaty, the CASA countries declared the Construction Start Date and reinstituted the effectiveness of the CASA Master Agreement and Power Purchase Agreements (PPAs).

13. **CASA-1000 Project procurement progress.** In 2018 the CASA-1000 countries achieved good progress in advancing project procurement.

- ***Component A: Construction of a High Voltage Transmission Infrastructure.*** The contracts for the supply and installation of the HVDC converter stations in Pakistan and Tajikistan were signed during the IGC September 2018 meeting; in addition, all contracts for CASA transmission facilities in CASA-1000 countries have been signed. However, the HVDC transmission line in Pakistan will need to be rebid. The Pakistan HVDC transmission line is financed by IsDB; its re-tendering package was issued in March 2019, and contracts are expected to be awarded in late summer 2019.
- ***Component B: Technical Assistance and Project Implementation Support.*** The contracts for the HVDC Owner's Engineer with Pakistan, Tajikistan, and Afghanistan were signed in September 2018, and the contracts for the HVAC Owner's Engineer with Tajikistan and Kyrgyz Republic were signed in August 2016. For the operations and maintenance (O&M) facility for the HVDC converter stations and transmission lines (DC Operator), which are not on the critical path, the CASA Secretariat has hired a consultant to develop options and technical specifications for the DC Operator. The bidding documents for the DC Operator are expected to be issued in 2019 or early 2020.
- ***Component C: Community Support Programs (CSPs).*** CSP projects in Afghanistan, Kyrgyz Republic, and Tajikistan have been approved by the World Bank. Pakistan's CSP Project is in the appraisal stage and is expected to be approved in June 2019. (More details are provided in para 16).

14. **CASA-1000 Project overall project disbursements** for IDA financing with the four CASA-1000 countries stand at US$78.62 million (16 percent), as of April 2019.

15. **CASA-1000 Project legal covenants and project restructuring.** Following the delays in the first years of implementation, a second restructuring of the CASA-1000 Project, including the Pakistan part of the legal documents, was approved in January 2019 to revise several legal dated covenants and to extend the project closing date from June 30, 2020, to March 31, 2023, to align with the project's revised implementation

[3] The original design with 3 HVDC converter stations was restructured in April 2016 to 2 converter stations (Tajikistan, Pakistan). Afghanistan deferred to the development of the Back-to-Back station on the existing 220 KV line with Tajikistan in lieu of the HVDC converter station.

schedule. The amendments to the legal agreements were in response to requests received from all four CASA countries.

16. **CASA-1000 Project CSPs.** Component C of the CASA-1000 Project entails developing and implementing CSPs in each of the CASA countries during the project's construction period to create a more supportive environment for project implementation by improving livelihoods among the communities living along the CASA corridor. The CSPs will take a community-driven approach – that is, community-led identification and implementation of the selected schemes, a key principle for the programs. The CASA CSPs in Kyrgyzstan, Tajikistan, and Afghanistan have been approved – in Kyrgyz Republic (P163592) on April 10, 2018; in Tajikistan (P165313) on March 21, 2019; and in Afghanistan (P149410) in March 2014. As of January 2019, the implementation of CSP activities in Afghanistan, including social mobilization, has started in 128 communities.

17. **CASA-1000 Pakistan CSP.** The Financing Agreement for the CASA-1000, Pakistan part, includes a covenant requiring that before construction work for the HVDC transmission line begins, the financing for the CSP program shall be secured in form and substance acceptable to IDA. The expected amount of financing is US$15 million. A total of US$2 million was committed earlier by the CASA-MDTF for the CSP in Pakistan. The remaining required funds of US$13 million will now be provided by the MDTF for Pakistan's border areas including KP, former Federally Administered Tribal Areas (FATA) and Balochistan through a separate, stand-alone project, as agreed by the Trust Fund Steering Committee on December 6, 2018. Preparation of this project is under way, and it is scheduled for approval by June 2019 (RVP approval).

18. **CASA Guarantees.** In addition to the CSP projects in the four CASA-1000 countries, the World Bank has initiated preparation of World Bank guarantees to backstop Government payments under the CASA-1000 PPAs. These guarantees were requested in 2015 by the CASA-1000 countries to fulfill requirements under the CASA-1000 Master Agreement and PPAs. The Bank did not initiate preparation of these guarantees at the time because of the delays in CASA-1000 Project implementation. Now that the project is moving toward the construction stage, the CASA-1000 countries have requested the World Bank to begin preparation of these guarantees. Preparation of the guarantees is expected to be completed during FY20 and approved in early FY21.

19. **Environment and social safeguards performance - Pakistan.** The ESIA and RAP for the Nowshera converter station were cleared by the Bank in 2017. The ESIA and RAP for the HVDC line and electrode station are still subject to revision following the Bank's review. NTDC has started the selection of a new consultant to finalize the ESIA and RAP for the HVDC lines. The final ESIA and RAP will be completed once the contractors for the converter stations and HVDC lines determine the final location of the electrode station and line route. This is expected by early 2020.

20. **Fiduciary performance - Pakistan.** There are no outstanding issues regarding fiduciary performance. NTDC has met the requirement to submit the project financial statements for 2017-2018 no later than nine months after the year end.

21. **Project oversight - Pakistan.** The Minister of Energy represents Pakistan in the IGC, and the Special Secretary, Power Division of the Ministry of Energy, is the Head of the Pakistan Joint Working Group (JWG). In September 2018, NTDC appointed a dedicated Project Director and two deputy managers for the CASA Project Management Unit (PMU), which reports to the Chief Engineer for the Extra High Voltage I North project. The

PMU is supported by an HVDC Owner's Engineer team that was mobilized in November 2018. The IGC Secretariat, financed by the United States Agency for International Development, is providing implementation coordination support for all countries, including to NTDC for the procurement of the HVDC line in Pakistan.

B. Rationale for Additional Financing

22. At the time the regional CASA-1000 Project was approved, for the Pakistan part, there were insufficient IDA funds to finance the entirety of the expected cost of the HVDC converter station. As of December 2018, both contracts for the converter station and for the HVDC Owner's Engineer under Components A and B, respectively, have been signed. Using the actual costs of these contracts, the financing gap for Components A and B (excluding the HVDC line financed by IsDB) is US$65 million. The proposed AF for CASA 1000 (Pakistan) will finance this gap in the committed contracts for goods, works and services under Component A- Construction of a High Voltage Transmission Infrastructure—specifically, subcomponent A.2, the construction of the HVDC converter station—and Component B- Technical Assistance and Project Implementation Support. There are no changes in the activities under Component A.

23. **Alignment with country and Bank strategies.** The proposed AF for CASA 1000 (Pakistan) is aligned with the World Bank Group's Pakistan Country Partnership Strategy (CPS) for FY15-20[4] (Report 84645-PK), directly supporting CPS's Outcomes 1.1, "Reduced Load Shedding," and 1.2, "Reduced Cost of Electricity Production," by supplying clean electricity to Pakistan during the summer peak demand period and creating conditions for sustainable electricity trade. The CPS itself is anchored in the Government's framework—and in the Government of Pakistan's Vision 2025, which includes transforming the energy sector. In particular, the proposed AF for CASA 1000 (Pakistan) will contribute to the CPS Results Area 1, "Energy," and the proposed project also supports the World Bank Group's twin goals of ending extreme poverty and boosting shared prosperity as it supports making the energy sector more sustainable, addresses barriers to private sector development, improves human capital and skills, and increases trade, all of which addresses Pakistan's limited fundamentals and helps convert growth into poverty reduction.

Regional IDA Funding Eligibility

24. The proposed project meets all four regional IDA funding eligibility criteria:

- **The AF for CASA 1000 (Pakistan) is part of a coordinated regional effort to enhance cross-border connectivity between Central Asia and South Asia.** The project will catalyze regional integration and the creation of an electricity market in South Asia and Central Asia, with the potential to expand to other countries. The project will also generate several non-quantifiable benefits: (i) a track record for Afghanistan as a reliable transit country in regional power trade; (ii) experience with regional interconnection projects; and (iii) contribution to the broader agenda of domestic and regional stabilization through economic ties and cooperation, especially in Afghanistan, with its issues of fragility, conflict, and violence.

- **The project is expected to both generate positive externalities and mitigate negative ones**. The CASA-1000 countries have proposed the implementation of targeted CSPs in each country as part of the CASA-

[4] World Bank Group (2014). *Islamic Republic of Pakistan: Country Partnership Strategy*, 2015-2020 (Report No. 84645-PK), discussed by the Executive Directors on May 1, 2014, extended by a Performance and Learning Review (Report No. 113574) as noted by the Executive Directors on June 15, 2017.

1000 Project. The aim of these programs is to improve livelihoods in the corridor communities and increase the shared prosperity associated with the project. Taking into consideration the special multiregional nature of the CASA-1000 Project, and the fact that its benefits will accrue predominantly to grid-connected electricity consumers and to national budgets, the IGC has decided to establish a mechanism to directly share project benefits with the communities living along the CASA-1000 corridor in the four countries. The CSPs will first be implemented during the project's construction phase to help create a more supportive environment for the project, especially among conflict-affected and vulnerable populations. The IGC's decision to create a mechanism for the provision of direct support to the communities during the project's operation phase will ensure continued funding to the CSPs that will be established as part of the CASA-1000 Project during construction.

- **There is strong regional support for the project.** The US$65 million AF for CASA 1000 (Pakistan) will be fully funded from the regional IDA funds. The Governments of the Kyrgyz Republic, Tajikistan, the Islamic Republic of Afghanistan and the Islamic Republic of Pakistan are all highly committed to the project. To demonstrate this commitment, on August 4, 2008, they entered into an intergovernmental agreement, and in 2015 they signed the CASA Master Agreement and PPAs constituting the core of the commercial agreements among the countries. Continuing to demonstrate strong commitment and ownership, in the September 2018 IGC meeting they reinstituted the effectiveness of the CASA Master Agreement and the PPAs constituting the commercial agreements on electricity trade among the four CASA countries and declared the Construction Start Date.

- **The project provides a platform for policy harmonization.** The project is a result of discussions carried out between the Central Asian countries of Kyrgyz Republic and Tajikistan and the South Asian countries of Afghanistan and Pakistan on the creation of the Central Asia South Asia Regional Electricity Market. The purpose was to link the Central Asian countries' surplus electricity resources with the South Asian countries' unmet demand for electricity, alleviating the persistent shortages that have acted as a brake on growth, jobs, and population welfare. In October 2006, the four countries signed a memorandum of understanding in which they committed to pursuing the development of the first phase of the regional electricity market by establishing the necessary transmission and trading infrastructure and systems to enable trade in electricity between Central Asia and South Asia – naming the project "CASA-1000."

II. DESCRIPTION OF ADDITIONAL FINANCING

25. The AF for CASA 1000 (Pakistan) will help to close the financing gap for the committed contracts for goods, works, and services for the Pakistan HVDC converter station (Component A2) to allow NTDC, the implementing entity, to complete the infrastructure part of the project on time. There will be no changes to the PDO, safeguards categories, or indicators in the Results Framework.

Proposed Changes

26. **Revision to financing of project components.**

Component A: Construction of a High Voltage Transmission Infrastructure. This component finances the construction of cross-border transmission infrastructure comprising about 475 km of 500 kV HVAC transmission lines to carry power from Kyrgyz Republic to Tajikistan and thereafter about 800 km of 500 kV HVDC

transmission line linking Tajikistan through Afghanistan with Pakistan, with HVDC converter stations in Tajikistan and Pakistan. There are no changes in the activities under Component A. The proposed AF for CASA 1000 (Pakistan) is intended to cover the financing gap for the construction of the HVDC converter station (subcomponent A.2 of the project). The contract for the HVDC converter station in Pakistan was signed in December 2018. Table 2 provides updated project costs.

Component B: Technical Assistance and Project Implementation Support. This component provides the four CASA-1000 countries with technical, commercial, financial management, environment and social, and legal support necessary for project implementation. For the Pakistan part, the HVDC Owner's Engineer contract was signed in December 2018. Under this component the proposed AF for CASA 1000 (Pakistan), activities to support any further additional scope or modification needed in the Owner's Engineer contract, and capacity building of the project, specifically in contract management, safeguards, financial management, coordination, and communications, including training and workshops.

27. The updated total cost for the implementation of activities under Components A and B for the Pakistan part is estimated at US$198.10 million, of which the original IDA credit will finance US$108.84 million and the AF for CASA 1000 (Pakistan) credit US$65 million. The remaining US$24.27 million, covering taxes, duties, and land acquisition, will be provided by NTDC's own funds. Table 2 provides a breakdown of the project costs and financing by component.

Table 2. Updated costs and IDA financing for Pakistan

Project component	Project costs (US$ millions)	IDA, US$ million			NTDC Own Funds US$ millions
		Original Credit	AF	Total	
Component A: High Voltage Transmission Infrastructure	**163.33**	**106.38**	**39.62**	**146.00**	**17.33**
Goods, works, and services	146.00	106.38	39.62	146.00	
Taxes and Duties	12.44				12.44
Land acquisition	4.88				4.88
Component B. Technical Assistance and Project Implementation Support	**10.97**	**2.46**	**7.00**	**9.46**	**1.51**
Goods, woks, non-consulting services, services and training	9.46	2.46	7.00	9.46	
Taxes and Duties	1.51				1.51
Component C: Community Support Program	0	0	0	0	0
Contingencies	18.38	0.00	18.38	18.38	0
Sub-Total	**192.68**	**108.84**	**65.00**	**155.46**	**18.84**
Interest during construction	5.42	0.00	0.00	0.00	5.42
Total costs	**198.10**	**108.84**	**65.00**	173.84	**24.27**

Note: Financing for the Pakistan CASA CSP under Component C will be provided under a separate project, under preparation.

*Excluding the HVDC line financed by IsDB

28. **Financing arrangements**. IDA will provide the AF for CASA 1000 (Pakistan) credit to the Islamic Republic of Pakistan (Recipient). The credit will be for 30 years, including a 5-year grace period. The Government of Pakistan (GoP) will make the AF proceeds available to NTDC under a Subsidiary Agreement to be signed between the GoP and NTDC. The NTDC and IDA will also sign a Project Agreement that will govern the implementation of the AF for CASA 1000 (Pakistan).

29. **Procurement.** The major portion of the US$65 million additional credit is required to bridge the financing gap of the already awarded contracts, and US$7 million—for project implementation support and capacity building, Component B—would involve additional activities for expenditures and procurement. The World Bank Procurement Regulations for IPF Borrowers will be followed for procurement under this component.

30. **Results Framework.** No changes to the original project indicators or targets are proposed. The achievement of the targets of the original Results Framework took into account the expected AF for CASA 1000 (Pakistan). The end target dates are being reflected in the results framework.

31. **Implementation arrangements.** Following the effectiveness of the CASA-1000 Project in January 2018, implementation is under way and the implementation arrangements are satisfactory**.** The existing implementation arrangements, including fiduciary and safeguards, will remain unchanged.

32. **Implementation period**. The proposed AF for CASA 1000 (Pakistan) is expected to be completed within the Project's revised implementation period. Following the restructuring of January 2019, the closing date for the Project now in effect is March 31, 2023.

III. KEY RISKS

33. **Most of the risks identified during appraisal of the CASA-1000 project remain relevant and valid**. These include the risk ratings for Political, Macro and Sector Strategy. The Institutional, Environment & Social Safeguards risks are further explained pertaining to the proposed AF for CASA 1000 (Pakistan).

34. **The overall risk rating for the CASA-1000 Project continues to be assessed as High**. All risks identified remain unchanged. The project is expected to provide medium- and long-term benefits for the four countries involved. The project is designed not only as a transmission line investment but also as a broader engagement between the Central and South Asia regions that will promote growth and political stability through economic cooperation. Because the project involves four countries, including fragile and conflict-affected countries and states, the risks continue to be high, but they are manageable, given the substantial progress made by CASA-1000 countries in advancing the procurement of most infrastructure contracts. The CASA Secretariat recently established an Implementation Subcommittee for coordinating project implementation in the four countries. Project endorsement and support by local communities is also critical to the project. In the Pakistan part, the HVDC transmission line, financed by IsDB, is in the process of being rebid. There is a risk that a delay in signing the contract could delay the construction of the transmission line and thus the overall project. However, this time around the CASA Secretariat has used industry outreach to increase market interest and competition in the new tender, and multiple contractors have expressed interest in bidding. The procurement package for the HVDC line was issued in early March 2019, and contract award is expected in mid-2019.

35. **Institutional capacity for implementation and sustainability risks for the CASA-1000 Project continue to be assessed as Substantial.** Identified risks include (i) capacity constraints in the four countries; (ii) coordination among the countries on implementing mutually linked projects and the risk of differing paces of implementation in such projects; (iii) the transparency of managing revenue from exports; and (iv) first-time exposure to HVDC technology for the countries. The HVDC Owner's Engineer will closely monitor project implementation and proactively deal with any issues that arise. The JWG and the IGC Secretariat will also closely monitor the project and resolve any major issues. For the Pakistan part, capacity building to the PMU through Component B will also help mitigate this risk. NTDC has been facing serious capacity constraints in meeting its unprecedented five-year expansion plan. In the past, lack of accountability throughout the investment project cycle, poor coordination among departments, suboptimal delegation of decision-making, and frequent changes in senior management have caused project implementation delays. The corporate restructuring launched in July 2017 aims to enhance accountability and streamline investment decision-making. To ensure a smooth transition to the new structure, the PMU, including a World Bank Program Unit, will oversee and drive results across the CASA-1000 Project and other ongoing World Bank-financed projects. Furthermore, the two consultants hired under the National Transmission Modernization I Project (NTMP-1)[5] will help build the NTDC's capacity in project design, procurement, and project implementation. Nonetheless, the risk remains substantial because the NTDC is still settling into the new organizational structure and has frequent changes in top management.

36. **Environmental and social risks continue to be assessed as Substantial.** The CASA-1000 Project requires land acquisition and involuntary resettlement, which, if not managed adequately, can cause implementation delays. Site-specific ESIAs and RAPs are under preparation in the four CASA-1000 countries and will need to be completed and approved by the Bank before any civil work and installation activities begin. In Pakistan, land acquisition especially for the right-of-way of transmission lines has historically been the main bottleneck for most transmission projects; thus, for the AF for CASA 1000 (Pakistan), the risk rating will remain Substantial. Early focus on the land acquisition process by the NTDC and close collaboration with all concerned parties for the project converter and electrode substations and transmission line is essential to mitigate delays. NTDC has paid the regional government the funds for land acquisition for the converter station and is closely following up with the KPK District Commissioner for the payment to the affected people. The capacity constraints of the Environmental and Social Impact Cell for the Dasu Transmission Line Project (ESIC DTLP), which is assigned to supervise the implementation of the environmental and social safeguard plans of CASA, pose another risk. From the social perspective, the transmission line alignment passes through sensitive and crisis-affected areas. The existing ESIC DTLP team does not have sufficient human resources, expertise, and experience to implement Category A projects in these areas. NTDC also has limited appropriate systems and mechanism in place to monitor such projects. Mitigation includes technical support and hands-on training to be provided by the international HVDC Owner's Engineer, who is already on board. In addition, it was agreed that NTDC will recruit two experienced safeguards staff (an environmental expert and a social expert) for the ESIC DTLP, who will work for the CASA PMU.

37. **Labor influx risks are Substantial.** The risks related to labor influx and sexual exploitation and abuse are assessed as Substantial. These risks will be managed by developing labor influx management plans during the preparation of ESIAs. Once the project grievance redress mechanism (GRM) is set up, the communities will have the opportunity to voice any concerns.

[5] The National Transmission Modernization I Project (P154987) (NTMP-1) supports the CASA-1000 Project by modernizing the transmission network, enabling the additional power produced to reach consumers efficiently.

38. **Stakeholder risks continue to be assessed as High in the overall project.** For the Pakistan part, it is also assessed as High as the transmission line is partially located in a crisis-affected area and its implementation requires a strong buy-in and support from the affected communities. To mitigate this, Pakistan CSP is being designed to strengthen community support for the CASA transmission line by providing social and economic infrastructure services. It would bring local communities on board by creating local ownership of the project to mitigate potential risk of it being targeted by parties with negative motives both during construction and operations.

39. **Security risks are High.** The security environment related to the construction and operation of the line remains uncertain in some of the regions crossed by the line in Pakistan and Afghanistan. The CASA-1000 countries have developed a security management plan that outlines key features of security risk mitigation and specifies how these risks will be handled during both the construction phase (when the risk is highest) and the operation phase. For the Pakistan part, the transmission line will run from Torkham all the way to Nowshera substation. Almost 100 km of transmission line will go through Khyber Pakhtunkhwa (KPK) Province. A salient feature of the project design is the emphasis on establishing strong outreach to local communities along the proposed right of way of the transmission line, which should enhance their understanding of and support for the project. The support of the communities will thus be a critical complement to the security arrangements mentioned above. Development assistance to local communities through the CSPs is an important means of gaining their support for the project.

IV. APPRAISAL SUMMARY

A. Economic and Financial Analysis

40. **Rationale for public sector financing.** Public sector financing of the project is warranted because the project requires international collaboration on issues that are of strategic national concern and carries risks that the private market would not be able to insure against. Furthermore, the project brings external benefits (development of local communities along the transmission line) and regional public goods (regional cooperation) and reduces external costs (reduction of CO_2 emissions from generation) that would not be valued when considered for private financing on purely commercial grounds.

41. **Value-added of the Bank's support.** The participating countries have limited capacity to prepare and implement the project, given the complexity of overall project management, technical, fiduciary, and safeguards aspects. The Bank's value-added arises from collaborating with other development partners as convener and facilitator, and from the technical inputs of its staff in helping the borrower countries to identify and address all project implementation issues related to technical and commercial aspects, procurement, financial management, and environmental and social impact mitigation.

42. **Context and assumptions.** As the design of the project has remained largely the same since appraisal, the elements of the economic and financial analysis (parameters, variables, uncertainties, and assumptions) have also remained largely the same. The economic and financial analysis updates these elements to provide a new context in which to evaluate the economic internal rate of return (EIRR) and financial internal rate of return (FIRR). It also differs from the analysis at appraisal (PAD-2014) in that it uses electricity sale volumes and tariffs

as negotiated under the Master Agreement (MA-2015) and Power Purchase Agreements (PPA-2015)[6] and incorporates revisions to the project design made in 2016.[7] The estimated commissioning date of the project has been postponed to April 2023, with benefits and costs estimated over the period 2019-2052.

Economic Analysis

43. The economic analysis is conducted at the project level. A social discount rate of 10 percent is used as the hurdle rate for the EIRR to determine economic viability. Economic costs include engineering, procurement, and construction (EPC) and network reinforcement costs; Owner's Engineer costs; environmental and social costs; physical contingencies; community benefit program costs; additional security costs; implementation and support costs during construction; incremental O&M; allowances for restoration of unplanned outages (common fund); transit costs; and opportunity/generation costs in the Kyrgyz Republic and Tajikistan. Economic benefits include the economic value of power imported by Pakistan and Afghanistan in terms of their avoided generation costs and the associated reduction of greenhouse gas (GHG) emissions from marginal fossil fuel plants.

44. The project EIRR is 27.7 percent and 32.3 percent under assumptions of low and high carbon prices, respectively,[8] easily exceeding the assumed social discount of 10 percent, and with net discounted economic benefits of US$1,354-1,836 million. Project economic viability is robust to 30 percent deviations in construction costs, construction delays, and fuel costs. Relative to the economic analysis at appraisal, higher costs of infrastructure lower returns, while a higher cost of carbon emissions increases returns. Higher energy charges negotiated under the PPA increase revenues for exporters, while lower fossil fuel prices reduce economic gains that can be made by importers.

Table 3. EIRR and project economic NPV

Economic measure	At appraisal	At additional financing: low carbon price	At additional financing: high carbon price
Project EIRR	26.1%	27.7%	32.3%
Project economic NPV at 10% social discount rate (US$m)	1,208	1,354	1,836

Financial Analysis

45. The financial analysis is conducted at the project and implementing entity level and is inclusive of applicable direct taxes. Government-to-implementing entity on-lending rates net of taxes determine the hurdle rate for the FIRR. Financial costs include EPC and network reinforcement costs; environmental and social costs (primarily those of land acquisition); physical and price contingencies; implementation and support costs during

[6] Note that the analysis does not capture net benefits that would arise from trade through the line beyond volumes agreed in the PPAs over the period of the PPA.
[7] The original design with three HVDC converter stations was restructured in April 2016 to two converter stations (Tajikistan, Pakistan). Afghanistan deferred to the development of the Back-to-Back station on the existing 220 KV line with Tajikistan in lieu of the HVDC converter station.
[8] Following Bank guidance, in the low-carbon-price scenario, the cost of carbon increases from US$39/ton in 2019 to US$78/ton in 2050. In the high-carbon-price scenario, the cost of carbon increases from US$78/ton in 2019 to US$156/ton in 2050.

construction; incremental O&M; allowances for restoration of unplanned outages (common fund); marginal costs of power generation in the Kyrgyz Republic and Tajikistan; and incremental transmission and distribution costs. Financial benefits include incremental revenues from the sale of imported power in Pakistan and Afghanistan and revenues from exporting and transmitting power.

46. The project FIRR is 27.7 percent, exceeding the project weighted average cost of capital (WACC) of 2.2 percent, and the project has a net discounted financial benefit of US$4,362 million. Project financial viability is robust to 30 percent deviations in construction costs, construction delays, and on-sale tariffs. The project is also financially viable for NTDC, with a FIRR of 8.2 percent and an NPV of US$88 million, though these figures are lower than at appraisal because of factors such as increased investment costs, lower fossil fuel prices, and a higher on-lending rate.

Table 4. FIRR and project financial NPV

Financial measure	At appraisal	At additional financing
NTDC FIRR	31.5%	8.2%
NTDC financial NPV at 5.3% discount rate (US$m)	710	88
Project FIRR	24.8%	27.7%
Project financial NPV at 2.2% WACC (US$m)	3,861	4,362

B. Technical

47. The original design of the CASA-1000 Project included the engineering design, construction, and commissioning of three HVDC converter stations: Sangtuda (1,300 MW) in Tajikistan, Kabul (300 MW) in Afghanistan, and Peshawar (1,300 MW) in Pakistan. However, following the failure of the tender package for the original three HVDC stations, in April 2016 the CASA countries restructured the design of the CASA HVDC system to reduce its technical complexity and security risks. The new design involved two HVDC converter stations, in Tajikistan and Pakistan, and required CASA power (300 MW) to Afghanistan to be supplied over its existing 220 kV transmission line with Tajikistan. The location for the converter station in Pakistan was also moved to Nowshera. These changes in design did not affect the technical robustness of the original design as appraised. The design is still relevant: to build a cross-border power trade facility, comprising about 475 km of 500 kV HVAC transmission lines to carry power from Kyrgyz Republic to Tajikistan at Khudj; and a 1300 MW HVDC converter in Tajikistan and thereafter 750 km of ±500 kV HVDC transmission link via Kabul, to a 1,300 MW terminal with HVDC converter facilities in Pakistan. The alternating-current-to-direct-current converter station would be designed to help power trade in any direction. CASA power (300 MW) to Afghanistan will be provided over its existing 220 kV transmission line with Tajikistan.

Gender

48. The AF for CASA 1000 (Pakistan) is gender-informed through the analysis of relevant gender information and the inclusion of measures to mitigate impacts on women. These show that lack of technical skills and occupational segregation keep women from accessing new labor market opportunities created by energy infrastructure projects. Further analysis, including through surveys will be carried out during the preparation of the RAP and Social Impact Assessment (as part of the ESIA).

49. Actions, as informed by this analysis, could include skills or vocational training focused on technical skills that women particularly need to access direct and indirect employment opportunities created by the project,

along with opportunities for self-employment. CASA-1000 will also be supported by other projects. The NTMP-1 supports the CASA-1000 project by modernizing the transmission network. Under the NTMP, the World Bank is supporting the NTDC in developing a gender action plan to promote gender equality at the institutional level. The action plan will highlight relevant institutional and project-level gender gaps and propose strategies to address them. It will elaborate measures to increase the representation of women across NTDC to achieve the Government quota, and to improve their retention and promotion. Similarly, the Pakistan CASA CSP project aims to turn communities into stakeholders in the project and promote ownership by community bodies formed to participate in the project. Women will be involved in monitoring the progress of the energy infrastructure and/or the ancillary activities, such as improving access to water and sanitation and building schools.

50. To monitor progress, it is planned that the PMU will include indicators in the quarterly progress report to closely monitor improvements in gender, including (i) number of women in decision-making roles in community bodies, and (ii) percentage of women participating in consultations. The AF for CASA 1000 (Pakistan)will not revise the Results Framework to include gender-related indicators at this stage as this will require agreements by all four countries involved in the project. It is expected that the description of the overall project will need to be revised in the future (i.e., to reflect dropping the converter station in Afghanistan). Once all four countries have agreed on the amended description, the overall project restructuring will also include gender-related indicators applicable to all four countries.

51. **Citizen Engagement.** NTDC is committed to ensuring the engagement of citizens in the management of CASA-1000. The primary beneficiaries of the project will be Pakistan's population, who will be better off because of the availability and greater reliability of the power supply. However, there is no direct connection between the population and the NTDC per se, as the benefits will be delivered via distribution company services. Therefore, citizen engagement in CASA-1000 will take place primarily through (i) the consultation process for the ESIA and RAPs, which will be used to solicit beneficiary feedback and provide input into subproject design, and (ii) the establishment of project-level GRMs to improve engagement with project-affected people and communities living near these facilities throughout the life of the project. As part of a future restructuring, indicators to measure and monitor beneficiary feedback and addressing of grievances will be included in the Results Framework for the overall Project (the CASA-1000 Project and AF). The Pakistan CASA CSP project will be designed as a community-driven development project based on strong elements of citizen engagement and community mobilization. It will bring benefits to local communities that may not benefit directly from the project or derive power supply directly from the transmission line.

52. **Climate mitigation co-benefits.** In line with the PDO and the design of the CASA-1000 Project, the transmission infrastructure to be constructed is required to enable sustainable energy trade by evacuating 1,300 MW of hydropower electricity, thus making the project fully consistent with low-emission development pathways. As was discussed in the CASA-1000 Project PAD, (paras. 9, 10) the two Central Asian countries involved in CASA-1000, Kyrgyz Republic and Tajikistan, have abundant hydropower, which is the source for over 90 percent of domestic energy needs. The natural hydrology driven by snow melts results in heavy water flows, and thus surplus power, during the summer. With support from the Asian Development Bank, European Bank for Reconstruction and Development, and other international partners, the two countries have committed specific investments to rehabilitate and construct hydropower plants. The transmission infrastructure will integrate surplus hydropower from these hydropower plants to alleviate summer electricity shortages in Pakistan and Afghanistan, while reducing their dependence on costly and highly emissive oil-based generation. The AF for CASA 1000 (Pakistan) would therefore generate maximum climate co-benefits for integrating 100

percent renewable energy into the grid, and it is consistent with the multilateral development banks' methodology for tracking climate mitigation finance.

53. **GHG accounting.** For the AF for CASA 1000 (Pakistan), the economic analysis focuses on the reduction of CO_2 emissions from switching fuels at the point of generation. The World Bank corporate GHG accounting methodology focuses on emissions from transmission and distribution (T&D) infrastructure—more specifically, on the emissions associated with land clearing (from construction of new lines) and technical losses in T&D lines. Since power flowing through the grid in the Kyrgyz Republic and Tajikistan is predominantly generated by hydropower, the emissions impact is assumed to be limited to that of land clearing for the CASA line and reduced technical losses in the importing countries.

54. The CASA transmission corridor has two main segments: a 475 km 500 kV HVAC from the Kyrgyz Republic to Tajikistan and a 750 km 500 kV HVDC from Tajikistan to Pakistan. Geography along this large distance varies substantially; however, in the absence of specific biomass density, it is assumed that the region is characterized by a temperate mountainous climate with an average biomass density of 147 tCO_2e/ha. This assumption is likely on the high side, given that the region is quite arid (by comparison, a dry grassland has an average biomass density of 13 tCO_2/ha). With a right-of-way of 50-60 meters (25-30 meters on either side) along the length of the line, the net emissions from land clearing is 9,882 tCO_2.

55. Information on the impact of CASA on T&D losses in Pakistan and Afghanistan is limited. However, the largest impact is expected from the transmission interconnection of the CASA 500 kV HVDC line in Pakistan. A study by NTDC found that on average this would result in a reduction of T&D losses of 16 MW during the supply period. Conservatively assuming a minimum contracted energy supply of 1,986 hours per year over the 15-year PPA horizon yields an avoided loss of 477 GWh. With a grid emissions factor of 458 gCO_2/kWh, cumulative avoided CO_2 from reduced T&D losses is 218,201 tons.

56. Together, the net CO_2 emissions impact from land clearing and reduced T&D losses is at minimum 208,419 tons of CO_2 (see Table 5).

Table 5. GHG accounting project net emissions

Source	Net emissions impact (tCO_2)
Reduced technical losses, Pakistan	(218,301)
Land clearing	9,882
Total	(208,419)

57. **Disaster risk screening.** According to the available data on climate and disaster risk, the following risks have been identified for Nowshera (Pakistan) and surrounding areas in which the construction of HVAC lines and converter stations is proposed:

- The high-level information available indicates the presence of extreme heat hazard in Nowshera District. This means that prolonged exposure to extreme heat, resulting in heat stress, is expected to occur at least once in the next five years. The potential impact of this risk would largely depend on the type of infrastructure to be constructed.
- Modeled projections of future climate identify a likely increase in the frequency of fire occurrence in this region, including an increase in temperature and greater variance in rainfall. In areas already

affected by wildfire hazard, the fire season is likely to increase in duration and include a greater number of days with weather that could support fire to spread because of longer periods without rain during fire seasons. Climate projections indicate that there could also be an increase in the severity of fires.

- River flood hazard is classified as medium, based on the modeled flood information currently available. This means that there is more than 20 percent chance that potentially damaging and life-threatening river floods will occur in the coming 10 years.
- Earthquake hazard is classified as medium, according to the information that is currently available. This means that there is a 10 percent chance of a potentially damaging earthquake in the project area in the next 50 years.

58. The screening is limited to identifying the climate and disaster risks. Consultation with engineering and construction professionals will provide a more detailed understanding of the risk posed to the assets by extreme heat, flooding, earthquakes, and river flooding. The level of guidance required will depend upon the level of hazard present in the specific geographic location, the vulnerability of the asset, and local legislation that might apply.

C. Financial Management

59. **A financial management (FM)** assessment was carried out at the time of the appraisal of the original project to ensure that the Pakistan CASA implementing entity (NTDC) had acceptable FM arrangements that provided adequate assurance that funds provided by the Bank would be used for their intended purposes. The FM arrangements will remain the same for this AF for CASA 1000 (Pakistan), except that the submission of Interim Financial Reports (IFRs) is moving from quarterly to semi-annual reporting. NTDC will submit IFRs to the Bank within 45 days after the end of each six-month period. The project audited financial statements, together with the auditor's opinions and the management letters, will be provided to the Bank within six months after the end of the fiscal year and will be made public in a manner acceptable to the World Bank. The receipt of entity audit reports (within 9 months after the close of the fiscal year) will be monitored through an intermediate results indicator.

60. **Disbursements**. The activities under Component A will be financed by the AF for CASA 1000 (Pakistan) through direct payments by the Bank and special commitments. For activities under Component B, apart from direct payments, reimbursements and advances to the Designated Account will be added. The disbursement details are provided in the Disbursement Financial Information Letter (DFIL), and all disbursements will be subject to the conditions of the Credit/Project Agreements and disbursement procedures as defined in the DFIL.

61. **Retroactive financing.** The implementing entity may withdraw from the Designated Account an aggregate amount of up to US$1 million for payments made before the signature date of the Financing Agreement but on or after January 1, 2019, for eligible expenditures under the Financing Agreement. There will be no withdrawals for any other expenditures incurred prior to this date.

D. Procurement

62. The overall CASA-1000 Project was subject to the "Guidelines for Procurement of Goods, Works and Non-consulting services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" and "Guidelines for

Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers," both dated January 2011.[9] For the AF for CASA 1000 (Pakistan), the major portion of the US$65 million funding is required to bridge the financing gap of the already awarded contracts, and US$7 million—for project implementation support and capacity building, under component B—would involve additional activities for expenditures. Procurement under this component will follow the World Bank Procurement Regulations for IPF Borrowers. A Project Procurement Strategy for Development has been prepared for the procurable items within the US$7 million allocated for new activities. The identified list includes consultancies for project support for contract, environmental and social, communications, legal, and financial management. Some individual consultants will also be hired for the PMU, and NTDC staff will use some project funds for capacity building. None of the consultancy contracts are expected to exceed the ex-post review threshold for the current risk ratings. The Procurement Plan for these additional activities was finalized on March 4, 2019.

63. Contract management would be a very important aspect of this project, not only because of the large infrastructure contracts, but also because of the complex implementation arrangements involving four project implementation entities and the Secretariat. A Contract Management workshop for all entities was held December 4-6, 2018. The CASA Secretariat and Owner's Engineer have adopted a weekly contractor Document Control Summary Report, which monitors the progress of all contracts and follows up with a summary report. It was agreed that a contract management plan will be developed for all the major contracts, which will capture the stakeholders' roles beyond the aspects addressed in the contract documents. This would be helpful in identifying and acting on issues beforehand and obviating delays in decision making and payments. These plans should be ready by mid-2019.

E. Social (including Safeguards)

64. The AF for CASA 1000 (Pakistan) will not trigger any new social safeguards policy. All social safeguard policies triggered in the original project continue to apply to the AF, including OP/BP 4.12, *Involuntary Resettlement*. The ESIA and RAP for the HVDC line has not yet been finalized. The preliminary transmission line route has been marked, but it will be finalized by the EPC contractor. NTDC will hire a consulting firm to update and finalize the ESIA and RAP. To ensure that the safeguard instruments will be of satisfactory quality, NTDC will hire two international experts (one each for social and environment) to review the EISA and RAP prepared by the consulting firm before it is submitted to the Bank. The ESIA and RAP for the Nowshera Converter and Grid station, which is partly financed under NTMP-1, was submitted to the Bank and subsequently cleared and disclosed in 2017 under NTMP-1.

F. Environment (including Safeguards)

65. The CASA-1000 Project was categorized as a Category A project because of the construction of a greenfield HVDC transmission line that may pass through some ecologically sensitive locations, including Ramsar sites in some of the countries. However, in Pakistan there are no such hotspots. The ESIA and RAP for the Nowshera converter station and grid station was submitted to the Bank and subsequently cleared in 2017.

66. The proposed AF for CASA 1000 (Pakistan) will not trigger any new environmental safeguard policies, and the environmental category of the project will remain unchanged as Category A, requiring full assessment. While

[9] The proposed AF for CASA 1000 (Pakistan)would follow the new World Bank Procurement Regulations for IPF Borrowers, since the Concept Note was approved in September 2018, after the effectiveness of the New Procurement Framework.

the area has significant physical cultural resources, any impacts on them would be avoided through special precautions and measures; thus OP/BP 4.11, *Physical Cultural Resources*, is not triggered.

67. NTDC is expected to hire consultants for the ESIA of the HVDC transmission line and electrode station, after the route for the transmission line is finalized (expected by October 2019). The ESIA is expected to be submitted to the Bank for clearance by end-February 2020.

G. **Other Safeguard Policies (if applicable)** N/A

V. WORLD BANK GRIEVANCE REDRESS

68. Communities and individuals who believe that they are adversely affected by a World Bank- (WB-) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project-affected communities and individuals may submit their complaint to the WB's independent Inspection Panel, which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit *http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service*. For information on how to submit complaints to the World Bank Inspection Panel, please visit *www.inspectionpanel.org.*

VI SUMMARY TABLE OF CHANGES

	Changed	Not Changed
Results Framework	✓	
Components and Cost	✓	
Disbursements Arrangements	✓	
Procurement	✓	
Implementing Agency		✓
Project's Development Objectives		✓
Loan Closing Date(s)		✓
Cancellations Proposed		✓
Reallocation between Disbursement Categories		✓
Safeguard Policies Triggered		✓
EA category		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓
APA Reliance		✓
Implementation Schedule		✓
Other Change(s)		✓

VII DETAILED CHANGE(S)

COMPONENTS

Current Component Name	Current Cost (US$, millions)	Action	Proposed Component Name	Proposed Cost (US$, millions)
Construction of High Voltage Transmission	518.50	Revised	Construction of High Voltage Transmission	576.25

Infrastructure			Infrastructure	
Technical Assistance and Project Implementation Support	8.00	Revised	Technical Assistance and Project Implementation Support	15.00
Community Support Programs	0.00	No Change	Community Support Programs	0.00
TOTAL	**526.50**			**591.25**

DISBURSEMENT ARRANGEMENTS

Change in Disbursement Arrangements

Yes

Expected Disbursements (in US$)

Fiscal Year	Annual	Cumulative
2014	0.00	0.00
2015	216,744.50	216,744.50
2016	433,752.58	650,497.08
2017	427,719.94	1,078,217.02
2018	8,873,634.92	9,951,851.94
2019	36,579,152.75	46,531,004.69
2020	155,000,000.00	201,531,004.69
2021	155,000,000.00	356,531,004.69
2022	155,000,000.00	511,531,004.69
2023	105,730,514.00	617,261,518.69

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Latest ISR Rating	Current Rating
Political and Governance	High	High
Macroeconomic	Substantial	Substantial
Sector Strategies and Policies	Substantial	Substantial

Technical Design of Project or Program	Moderate	Moderate
Institutional Capacity for Implementation and Sustainability	Substantial	Substantial
Fiduciary	Moderate	Moderate
Environment and Social	High	High
Stakeholders	High	High
Other		
Overall	High	High

LEGAL COVENANTS – Additional Financing for the Central Asia South Asia Electricity Transmission and Trade Project (P167898)

Sections and Description
Implementation Arrangements. The proposed Additional Financing will follow the same institutional and implementation arrangements, including procurement, disbursement, safeguards, reporting, monitoring and evaluation, as the original project (Sections I, II and III of the Schedule to the Financing Agreement).
Retroactive Financing. The Project Implementing Entity may withdraw from the Designated Account an aggregate amount of up to US$1 million for payments made before the signature date of the Financing Agreement but on or after January 1, 2019, for eligible expenditures under the Project (paragraph 1 of Section III.B of the Schedule to the Financing Agreement). There will be no withdrawals for any other expenditures incurred prior to this date.
Subsidiary Agreement. To facilitate the carrying out of Parts A.2 (iii) and B of the Project within the territory of the Recipient the Recipient shall make the proceeds of the Financing available to the Project Implementing Entity under a subsidiary agreement between the Recipient and the Project Implementing Entity, in accordance with the Recipient's re-lending policies and procedures, under terms and conditions acceptable to the Association (paragraph 1 of Section I.B of the Schedule to the Financing Agreement).

Conditions

VIII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: South Asia

Additional Financing for the Central Asia South Asia Electricity Transmission and Trade Project

Project Development Objective(s)

The objective of the project is to create the conditions for sustainable electricity trade between the Central Asian countries ofTajikistan and Kyrgyz Republic and the South Asian countries of Afghanistan and Pakistan.

Project Development Objective Indicators by Objectives/ Outcomes

Indicator Name	DLI	Baseline	Intermediate Targets							End Target
			1	2	3	4	5	6	7	
Create the conditions for sustainable electricity trade between Central and South Asian countries *(Action: This Objective is New)*										
Trade initiated between the participating countries (Yes/No)		No	No	No	No	No	Yes	Yes	Yes	Yes
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the new closing date of March 31, 2023.***									
Commercial framework between the countries is established and operational (Text)		Not established	Master Agreement and PPAs signed	Master Agreement and PPAs effective	Master Agreement and PPAs effective	Account Bank Agreements signed and Technical Code Finalized	All Core Project agreements including Account Bank, Technical Code finalized	All Core Project agreements including Account Bank, Technical Code finalized	All Core Project agreements including Account Bank, Technical Code finalized	All Core Project agreements including Account Bank, Technical Code finalized

Indicator Name	DLI	Baseline	Intermediate Targets							End Target
			1	2	3	4	5	6	7	
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the new closing date of March 31, 2023.***									
Institutional mechanism for project sustainability is in place (Text)		IGC Secretariat and JWG established	IGC and JWG established	IGC Secretariat and JWG strengthened	IGC and JWG meetings held	IGC and JWG meetings held	IGC and JWG meetings held	IGC and JWG meetings held	IGC and JWG meetings held	IGC and JWG meetings held
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the new closing date of March 31, 2023.***									
Transmission lines constructed or rehabilitated under the project (Kilometers)		0.00	0.00	0.00	0.00	700.00	1,300.00	1,300.00	1,300.00	1,300.00
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the new closing date of March 31, 2023.***									
Transmission lines constructed under the project (Kilometers)		0.00	0.00	0.00	0.00	700.00	1,300.00	1,300.00	1,300.00	1,300.00
Action: This indicator has been Revised										

Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	Intermediate Targets							End Target
			1	2	3	4	5	6	7	
Construction of a High Voltage Transmission Infrastructure *(Action: This Component is New)*										
Construction contracts signed for HVDC converter stations (Yes/No)		No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Action: This indicator has been Revised	***Rationale:*** ***Construction contracts for the HVDC convertor stations were signed in September 2018.*** ***The indicator remains unchanged. The end target dates are revised to reflect the new closing date of March 31, 2023.***									
Construction contracts signed for HVDC line (Yes/No)		No	No	No	No	Yes	Yes	Yes	Yes	Yes
Action: This indicator has been Revised	***Rationale:*** ***Construction contracts for the HVDC Line in Afghanistan were signed in December 2017.*** ***Construction contract for the HVDC line in Tajikistan was signed in May 2018*** ***Construction contract for the Pakistan HVDC line is still not signed.*** ***The indicator remains unchanged. The end target dates are revised to reflect the new closing date of March 31, 2023.***									
Converter stations constructed under the Project (Number)		0.00	0.00	0.00	0.00	2.00	2.00	3.00	3.00	3.00
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the new closing date of March 31, 2023.***									
HVDC line constructed under the Project		0.00	0.00	0.00	0.00	0.00	750.00	750.00	750.00	750.00

Indicator Name	DLI	Baseline	Intermediate Targets							End Target
			1	2	3	4	5	6	7	
(Kilometers)										
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the new closing date of March 31, 2023.***									
HVAC line between the Kyrgyz Republic and Tajikistan constructed under the Project (Kilometers)		0.00	0.00	0.00	0.00	0.00	0.00	475.00	475.00	475.00
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the new closing date of March 31, 2023.***									
Indirect Project Beneficiaries (Number)		0.00	0.00	0.00	0.00	0.00	27,500,000.00	28,500,000.00	30,000,000.00	30,000,000.00
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the new closing date of March 31, 2023.***									
Project Management and Capacity Building *(Action: This Component is New)*										
Owner's Engineer hired and in place (Yes/No)		No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the revised closing date of March 31, 2023.***									
Timely Audits carried out of Entity Financial Statements within 9		No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Indicator Name	DLI	Baseline	Intermediate Targets							End Target
			1	2	3	4	5	6	7	
months of the closure of financial year - Tajikistan and Kyrgyz Republic (Yes/No)										
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the revised closing date of March 31, 2023.***									
Timely Audits carried out of Entity Financial Statements within 9 months of the closure of the financial year - Pakistan and Afghanistan (Text)		No	No	No	No	Yes	Yes	Yes	Yes	Yes
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the revised closing date of March 31, 2023.***									
Number of staff receiving knowledge transfer on HVDC technology/ Transmission Dispatch (Number)		0.00	0.00	0.00	10.00	10.00	40.00	40.00	40.00	40.00
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the revised closing date of March 31, 2023.***									
Development of operational manual for the Community Support Programs		No	No	No	No	Yes	Yes	Yes	Yes	Yes

Indicator Name	DLI	Baseline	Intermediate Targets							End Target
			1	2	3	4	5	6	7	
(Yes/No)										
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the revised closing date of March 31, 2023.***									
Agreement on financing of Community Support Programs for operations phase (Yes/No)		No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Action: This indicator has been Revised	***Rationale:*** ***The indicator remains unchanged. The end target dates are revised to reflect the revised closing date of March 31, 2023.***									

Monitoring & Evaluation Plan: PDO Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Trade initiated between the participating countries	Commercial flows of electricity traded under at least one of the PPA between at least one of the sellers and one of the buyers.	Annual	NTCs/utility database	Utility database	NTCs
Commercial framework between the countries is established and operational	Number of commercial framework agreements	Annual	NTCs/utility database	Utility database	NTCs/IGC Secretariat

	signed and implemented.				
Institutional mechanism for project sustainability is in place	Ensure coordination and decision-making processed and capacity are established.	Annual	IGC/JWG Meetings	IGC/JWG Meetings	IGC Secretariat
Transmission lines constructed or rehabilitated under the project	Total extension of new transmission lines constructed under the Project	Cumulative	NTCs/utility database	Utility database	NTCs/IGC Secretariat
Transmission lines constructed under the project	Total extension of new transmission lines constructed under the Project.	Cumulative	NTCs/utility database	Utility database	NTCs/IGC Secretariat

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Construction contracts signed for HVDC converter stations	Contracts signed for HVDC converter stations prior to construction	Cumulative	NTCs/utility database	Utility database	NTCs/IGC Secretariat
Construction contracts signed for HVDC line	Signing of construction contracts for HVDC line	Cumulative	NTCs/utility database	Utility database	NTCs/IGC Secretariat
Converter stations constructed under the Project	Construction of converter stations	Cumulative	NTCs / utility database	Utility database	NTCs/IGC Secretariat
HVDC line constructed under the Project	Construction of HVDC line	Cumulative	NTCs/utility database	Utility database	NTCs/IGC Secretariat

HVAC line between the Kyrgyz Republic and Tajikistan constructed under the Project	Construction of HVAC line between Kyrgyz Republic and Tajikistan	Cumulative	NTCs/utility database	Utility database	NTCs/IGC Secretariat
Indirect Project Beneficiaries	Electricity consumers in Pakistan and Afghanistan benefiting from increased electricity supply.	Annual	NTCs/utility database	Utility database	NTDC, DABS
Owner's Engineer hired and in place	Hiring and placement of OEs	Once	NTCs / IGC Secretariat	Reporting to NTCs / IGC Secretariat	NTCs / IGC Secretariat
Timely Audits carried out of Entity Financial Statements within 9 months of the closure of financial year - Tajikistan and Kyrgyz Republic	Periodic audits carried out within agreed timeframe	N/A	NTCs / IGC Secretariat	NTCs / IGC Secretariat	NTCs / IGC Secretariat
Timely Audits carried out of Entity Financial Statements within 9 months of the closure of the financial year - Pakistan and Afghanistan	Periodic audits are carried out in a timely manner	N/A	NTCs/IGC Secretariat	Reporting to NTCs/IGC Secretariat	NTCs / IGC Secretariat
Number of staff receiving knowledge transfer on HVDC technology/ Transmission Dispatch	Number of NTCs/ national consultants / contractor staff involved in HVDC activities and Transmission dispatch during design and construction phases.	Annual	NTCs / IGC Secretariat	NTCs / IGC Secretariat	NTCs / IGC Secretariat
Development of operational manual for the Community Support Programs	Operations Manual for Afghanistan CSP Project is in place Draft Operations Manual for KG in place	N/A	NTCs / IGC Secretariat	NTCs / IGC Secretariat	NTCs / IGC Secretariat

	Operations Manual for Tajikistan CSP and Pakistan CSP projects are not yet in place				
Agreement on financing of Community Support Programs for operations phase	Agreement reached on financing of operations phase	N/A	NTCs / IGC Secretariat	NTCs / IGC Secretariat	NTCs / IGC Secretariat