

Revised Project Administration Manual

Project Number: 37192-044
Loan Numbers: 3203, 8311
December 2016

MFF 0007-PAK: Power Transmission Enhancement
Investment Program—Tranche 4

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Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with government and Asian Development Bank (ADB) policies and procedures. The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The National Transmission and Despatch Company (NTDC) is wholly responsible for the implementation of ADB-financed projects, as agreed jointly between the Borrower and ADB, and in accordance with government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by NTDC of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At Loan Negotiations, the Borrower and ADB shall agree to the PAM and ensure consistency with the Loan Agreement. Such agreement shall be reflected in the minutes of the Loan Negotiations. In the event of any discrepancy or contradiction between the PAM and the Loan Agreement, the provisions of the Loan Agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP) changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval they will be subsequently incorporated in the PAM.

Abbreviations

ADB	–	Asian Development Bank
AFD	–	Agence Française de Développement
DMF	–	design and monitoring framework
EHV	–	extra high voltage
EMP	–	environmental management plan
EPC	–	engineering, procurement, and construction
GDP	–	gross domestic product
ICB	–	international competitive bidding
kV	–	kilovolt
LARP	–	land acquisition and resettlement plan
LIBOR	–	London interbank offered rate
MFF	–	multitranche financing facility
MVA	–	megavolt-ampere
MW	–	megawatt
NTDC	–	National Transmission and Despatch Company
PAM	–	project administration manual
PMU	–	project management unit
SPS	–	Safeguard Policy Statement
SVS	–	static var system

I. PROJECT DESCRIPTION

1. The Power Transmission Enhancement Investment Program, Tranche 4 aims to improve energy supply and security by reducing transmission infrastructure bottlenecks and transmission losses, and expanding the national transmission system by connecting generation sources and load centers for the benefit of all Pakistanis.

A. Impact and Outcome

2. The impact of tranche 4 will be enhanced power transmission operations and management. The outcome will be an expanded and reliable 500-kV and 220-kV transmission system.

B. Outputs

3. The project outputs will be commissioning of new transmission lines and substations, specifically (i) line bay extension and 281 kilometers (km) of 500-kilovolt (kV) transmission line installation from the existing 500-kV Muzaffargarh grid station for electricity evacuation from the 747-megawatt (MW) Guddu power plant; (ii) four new 220-kV grid stations and associated in/out transmission lines at Chakdara, D.I. Khan, Lalian, and Nowshehra; (iii) installation of static var system (SVS) at 220-/132-kV Quetta industrial grid station; and (iv) extension of 500-kV grid stations at Jamshoro and Gujranwala, and augmentation of 500-kV grid station at Rewat.

4. The project comprises 10 subprojects grouped into five key components: (i) dispersal of power from the 747-MW Power Plant at Guddu, (ii) construction of four new 220-kV grid stations and associated transmission lines, (iii) installation of SVS at the 220-kV Quetta Industrial, (iv) extension or augmentation of three existing 500-kV grid stations, and (v) procurement of construction and operation equipment. A summary of each subproject in each component is provided in Table 1 below.

Table 1: Summary of Subprojects

No.	Subproject	Description
Component 1: Dispersal of power from the 747-MW power plant at Guddu		
1	Guddu power dispersal	Construction of 261 km of 500-kV transmission line, addition of three 500-kV line bays, and 20 km of 500-kV in/out transmission lines at the 500-kV Muzaffargarh substation.
Component 2: Construction of four new 220-kV grid stations and associated transmission lines		
2	D.I. Khan substation	Construction of a new 220-kV grid station (2x250 MVA 220-/132-kV) and associated 100 km of 220-kV in/out transmission lines at D.I. Khan.
3	Nowshehra substation	Construction of a new 220-kV grid station (3x250 MVA 220-/132-kV) and associated 2 km of 220-kV in/out transmission lines at Nowshehra.
4	Lalian substation	Construction of a new 220-kV grid station (3x250 MVA 220-/132-kV) and associated 8 km of 220-kV in/out transmission lines at Lalian.
5	Chakdara substation	Construction of a new 220-kV grid station (2x220/132-kV 250-MVA) and associated 85 km of 220-kV in/out transmission lines at Chakdara.
Component 3: Installation of SVS at 220-kV Quetta Industrial		
6	Quetta SVS	Construction of a new SVS at 220-/132-kV Quetta industrial grid station.

Component 4: Extension or augmentation of three 500-kV existing grid stations		
7	Jamshoro extension	Addition of 500-/220-kV 450-MVA transformer at the 500-kV Jamshoro grid station.
8	Gujranwala extension	Addition of two 500-kV line bays with MVAR shunt reactors at Gujranwala grid station.
9	Rewat augmentation	Augmentation of the 500-kV Rewat grid station from 450 MVA to 750 MVA.
Component 5: Procurement of construction and operation equipment		
10	Equipment procurement	Procurement of construction and operation equipment for grid system operations.

km = kilometer, kV = kilovolt, MVA = megavolt-ampere, MVAR = megavolt-ampere reactor, MW = megawatt, SVS = static var system.

5. **Component 1.** The existing 500-kV system of NTDC links the country from south to north. The link makes possible the transmission of power from the major generating facilities in the south and north to the load centers in the middle of the country. Component 1 will allow the dispersal of 747-MW of power generated from the Guddu thermal power plant to the load centers to help reduce the severe load shedding in the country.

6. **Component 2.** This involves the construction of four new 220-kV grid stations and associated in/out transmission lines at Chakdara, D.I. Khan, Lalian, and Nowshehra. These four subprojects will reduce the loading on the existing grid stations and improve the system voltage profile, reduce transmission losses, improve the system reliability, and reduce load shedding in the respective regions.

7. **Component 3.** This involves the construction of a new SVS at the 220-/132-kV Quetta industrial grid station. The SVS will stabilize the network and allow it to meet the growing reactive power demand in the region.

8. **Component 4.** This involves the extension or augmentation of three existing 500-kV grid stations. The extension of the Jamshoro grid station (subproject 7) will allow the evacuation of power from the Jhimpir and Gharo wind power plant clusters and NBT wind power plant near Jamshoro to the load centers. Similarly, the extension of the Gujranwala grid station (subproject 8) will allow the evacuation of power from the Neelum Jhelum hydro power plant. Both of these subprojects will contribute to a reduction in load shedding in the country and improve the voltage in the surrounding network. The augmentation of the 450-megavolt-ampere (MVA) transformer with 750-MVA capacity at the Rewat grid station under subproject 9 will reduce the loading on the existing station and meet the load demand in the region.

9. **Component 5.** The final component is for procurement of construction and operation equipment required for the other subprojects.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

Table 2: Project Processing Schedule

Indicative Activity	2014			2015			Responsible Party
	Oct	Nov	Dec	Jan	Feb	Mar	
Advance contracting actions Approval of master bidding documents for 3 contract packages Recruitment of individual project implementation consultants under Tranche 1 (Loan 2290)		X	X				ADB/NTDC
Loan negotiations		X					ADB/NTDC
ADB approval			X				ADB
Loan signing			X				EAD, MoWP
Government legal opinion for Loan and Project Agreement					X		EAD, MoL, MoWP
Subsidiary onlending agreement					X		NTDC, EAD
Loan effectiveness						X	NTDC, EAD, ADB

ADB = Asian Development Bank, EAD = Economic Affairs Division, NTDC = National Transmission and Despatch Company, MoL = Ministry of Law; MoWP = Ministry of Water and Power.

B. Overall Project Implementation Plan

An overall project implementation plan is provided below. The detailed project implementation plan is included in Appendix 1.

Indicative Activities	2014				2015												2016											
	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Component 1 - Dispersal of power from 747-MW Power Plant at Guddu ¹																												
1.1 500-kV Transmission Line Equipment																												
1.1.1	BD submission to ADB																											
1.1.2	BD approval																											
1.1.3	Bidding process																											
1.1.4	Contract award/effectiveness																											
1.1.5	Design and approval																											
1.1.6	Procurement, manufacture and shipment																											
1.1.7	Confirmation of delivery																											
1.2 Civil Works and ETC of 500-kV Transmission Lines																												
1.2.1	BD submission to ADB																											
1.2.1	BD approval																											
1.2.2	Bidding process																											
1.2.3	Contract award/effectiveness																											
1.2.4	Civil design and approval																											
1.2.5	Construction																											
1.2.6	Completion certificate																											
Component 2 - Construction of four new 220-kV grid stations and associated transmission lines																												
2.1. Purchase of GS equipment																												
2.1.1.	BD submission to ADB																											
2.1.2.	BD approval																											
2.1.3.	Bidding process																											
2.1.4.	Contract award/effectiveness																											
2.1.5.	Design and approval																											
2.1.6.	Procurement, manufacture and shipment																											
2.1.7.	Delivery confirmation																											
2.2. Civil works and ETC																												
2.2.1.	BD submission to ADB																											
2.2.2.	BD approval																											
2.2.3.	Bidding process																											
2.2.4.	Contract award/effectiveness																											
2.2.5.	Civil design and approval																											

¹ Upgrade of addition of 500-kV line bays at the 500-kV Muzaffargah substation is completed under component 4.

Indicative Activities	2014				2015												2016											
	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
2.2.6. Civil works																												
2.2.7. ETC																												
2.3 220-kV Transmission Line Equipment																												
2.3.1 BD submission to ADB																												
2.3.2 BD approval																												
2.3.3 Bidding process																												
2.3.4 Contract award/effectiveness																												
2.3.5 Design and approval																												
2.3.6 Procurement, manufacture and shipment																												
2.3.7 Delivery confirmation																												
2.4 Civil Works and ETC of 220-kV Transmission Lines																												
2.4.1 BD submission to ADB																												
2.4.2 BD approval																												
2.4.3 Bidding process																												
2.4.4 Contract award/effectiveness																												
2.4.5 Design and approval																												
2.4.6 Construction																												
2.4.7 Completion certificate																												
Component 3 - Installation of SVS at 220-kV Quetta Industrial																												
3.1.1. BD submission to ADB																												
3.1.2. BD approval																												
3.1.3. Completion of bidding process																												
3.1.4. Contract award/effectiveness																												
3.1.5. Design and approval																												
3.1.6. Procurement, manufacture and shipment and ETC																												
3.1.7. Civil works																												
3.1.8. Completion certificate																												
Component 4 - Extension or augmentation of three 500-kV existing grid stations																												
4.1 500-kV GS Equipment																												
4.1.1 BD submission to ADB																												
4.1.2 BD approval																												
4.1.3 Bidding process																												
4.1.4 Contract award/effectiveness																												
4.1.5 Design and approval																												
4.1.6 Procurement, manufacture and shipment																												

Indicative Activities	2014				2015												2016											
	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
4.1.7 Delivery confirmation																												
4.2 Civil Works and ETC																												
4.2.1 BD submission to ADB																												
4.2.2 BD approval																												
4.2.3 Bidding process																												
4.2.4 Contract award/effectiveness																												
4.2.5 Civil design and approval																												
4.2.6 Civil works																												
4.2.7 ETC																												
Component 5 – Construction and operations equipment																												
5.1 GSO Construction Equipment																												
5.1.1 BD submission to ADB																												
5.1.2 BD approval																												
5.1.3 Bidding process																												
5.1.4 Contract award/effectiveness																												
5.1.5 Design and approval																												
5.1.6 Procurement, manufacture and shipment																												
5.1.7 Delivery confirmation																												
5.2 GSO Substation Equipment																												
5.2.1 BD submission to ADB																												
5.2.2 BD approval																												
5.2.3 Bidding process																												
5.2.4 Contract award/effectiveness																												
5.2.5 Design and approval																												
5.2.6 Procurement, manufacture and shipment																												
5.2.7 Delivery confirmation																												

ADB = Asian Development Bank, BD = bidding document, ETC = __, GS = grid station, GSO = grid station operation, kV = kilovolt.

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Stakeholders—Roles and Responsibilities

Project Stakeholders	Management Roles and Responsibilities
Executing and Implementing Agency	National Transmission and Despatch Company – implementation of the investment program and individual projects, including tranche 4, as per the loan and project agreements
ADB	Project financier

B. Key Persons Involved in Implementation

Executing Agency

National Transmission and Despatch Company

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C. Project Organization Structure

10. NTDC's planning, services, and implementation departments will all be involved in implementing the subprojects. The structure of NTDC's project management unit (PMU), headed by General Manager (Projects), has been strengthened to resolve the implementation delays during tranches 1 and 2, and procurement issues under tranche 3. On 9 February 2012, NTDC approved a new PMU structure, which includes five functions (procurement, finance, monitoring and planning, monitoring and coordination, and environmental and social cell), with the Chief Engineers for Extra High Voltage (EHV)-1 and EHV-2 reporting to General Manager (Grid Station Construction) who, in turn, reports to Managing Director, NTDC through General Manager (Projects).

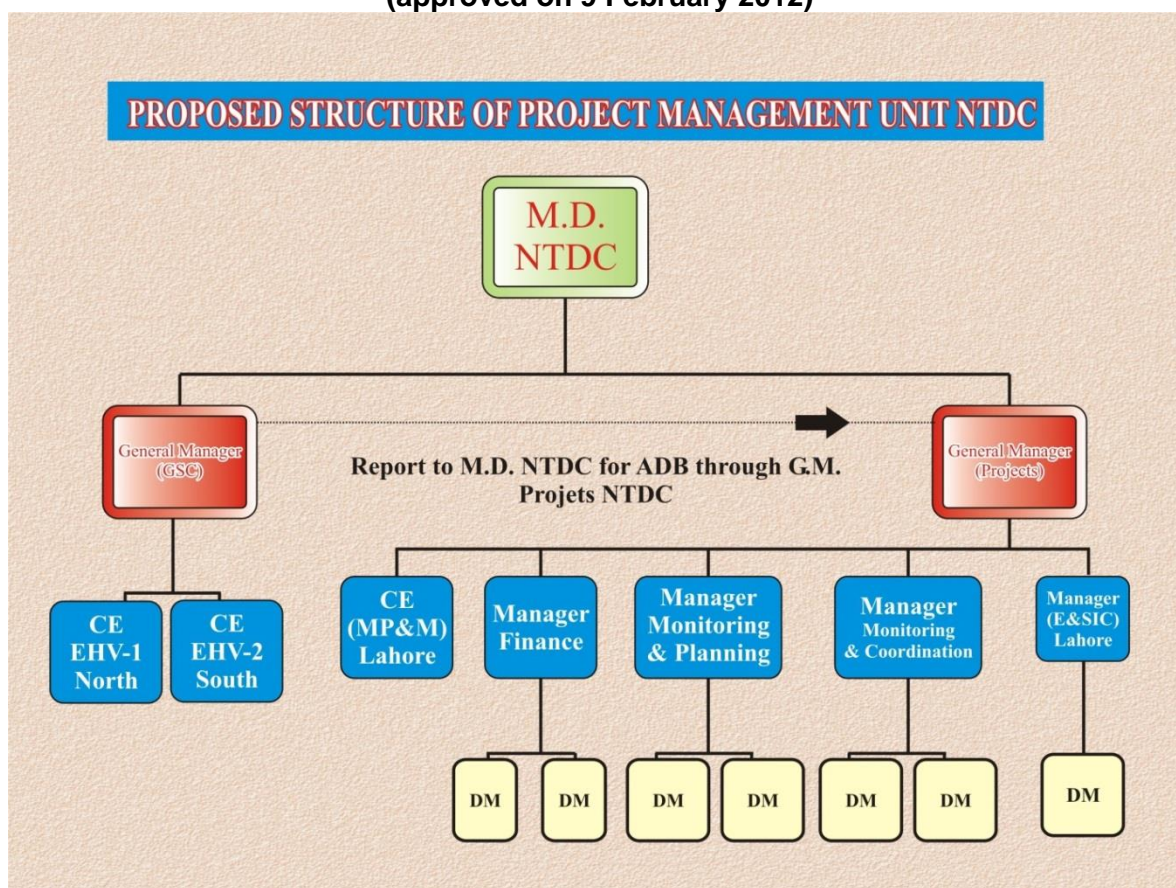
11. To increase the PMU's procurement capacity, the Chief Engineer (MP&M), who reports to the General Manager (Projects), has been appointed to be responsible for all procurement

and financial matters related to contract management. Financial and contract management capacity will be added to the PMU, reporting through the Chief Engineer (MP&M), to handle opening of letters of credit, prepare and submit withdrawal applications, and monitor the contract financial performance.

12. NTDC's design department prepares and approves detailed construction and installation layouts and drawings for each subproject, adhering to relevant international practices and standards. The field offices (EHV-1 and EHV-2) will be responsible for construction after contract signing. They will report the physical progress to PMU, through the General Manager (GSC), for continuous monitoring and reporting. The PMU already includes a functioning environmental and social cell.

13. NTDC engaged two international and one national procurement experts, through the project preparation consulting firm, to help in bid evaluation and preparation of bid evaluation reports. NTDC agreed to engage additional individual consultants to help the PMU in procurement, project supervision, and safeguards monitoring, using the Investment Program support component (Loan 2290).

**Figure 1. NTDC's PMU Structure
(approved on 9 February 2012)**



ADB = Asian Development Bank, CE = chief executive, DM = department manager, E&SIC = environment and social impact cell, EHV = extra high voltage, GM = general manager, GSC = grid system control, MD = managing director, MP&M = Management of Products and Materials, NTDC = National Transmission and Despatch Company.

IV. COSTS AND FINANCING

14. The total cost of tranche 4 is \$335.3 million equivalent, inclusive of taxes, duties, and financial charges during implementation. ADB will use its ordinary capital resources to finance the project for a maximum loan amount of \$248.00 million to the Borrower, the government. All of the provisions of the ordinary operations loan regulations applicable to a London interbank offered rate (LIBOR)-based loan² will apply to this loan. The repayment period is 26 years, including a grace period of 4 years. An interest rate will be determined in accordance with ADB's LIBOR-based lending facility, a commitment charge of 0.15%, and such other terms set forth in the loan and project agreements. ADB funds will be on-lent to NTDC in local currency, on standard relending terms, with the same loan repayment schedule and grace period.³ The foreign exchange risk will be borne by the Borrower. NTDC will finance the remaining part of the project costs or for a total of \$87.3 million.

A. Cost Estimates Preparation

15. The cost estimates were prepared based on the updated technical analysis conducted by NTDC and the project preparatory consultants engaged under tranche 1 (Loan 2290). The cost estimates were based on most recent prices used for tranches 2 and 3, and updated to end-2014 prices through indexation at international inflation rates maintained by ADB. These estimates were reviewed by ADB, and endorsed by NTDC.

B. Cost Categories

Table 3: Descriptions of Cost Categories

Category	Description
Turnkey contract	Engineering, procurement, and construction contract for the design, supply, installation, testing and commissioning of a project
Civil works	The construction and installation of the physical component of the project including works like foundation, towers, and grid station equipment
Equipment	Cost of grid station equipment, transmission lines, including spare parts, materials and allied equipment
Environment and social mitigation	Cost of potential environmental and social impact and mitigation
Land acquisition and resettlement plan	Cost of land acquisition, resettlement, and crop compensation
Project management	Costs relating to engineering, administration, security, transportation and insurance borne by the National Transmission and Despatch Company

C. Assumptions

16. The assumptions considered in the cost estimates include:

² ADB. 2001. *Ordinary Operations Loan Regulations Applicable to LIBOR-Based Loans Made from ADB's Ordinary Capital Resources*. Manila.

³ Office Memorandum No. 1(1)SO(DM)/09, issued by the Government of Pakistan, Ministry of Economic Affairs & Statistics (Economic Affairs Division).

- (i) Exchange rate: PRs101.85:\$1 as of 1 September 2014.
- (ii) All costs are expressed in end-2014 prices.
- (iii) Physical contingencies are computed at 9% of total base costs comprising 8.5% for turnkey contracts and equipment, 10% for civil works, and 5% for project management.
- (iv) Price contingencies are computed using the projected cumulative inflation over the implementation period, as follows:
 - Foreign prices: 2015: 1.23%; 2016: 2.49%
 - Domestic prices: 2015: 8.25%; 2016: 16.75%
- (v) Financial charges during implementation consist of interest during construction of 15% per annum calculated on the average outstanding amount, and commitment charges of 0.15% per annum calculated on the average undisbursed amount of ADB loan.
- (vi) In-kind contributions consist primarily of import duties and sales taxes. Project management costs consist of engineering, administration, insurance, security support, and transportation. These in kind-contributions will be recorded and measured by NTDC using its accounting systems, policies and procedures.

D. Summary Cost Estimates and Financing Plan

Table 4: Summary Cost Estimates
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Dispersal of power from 747-MW power plant at Guddu	84.5
2. Construction of four new 220-kV grid station and associated transmission lines	79.7
3. Installation of SVS at the 220-kV Quetta Industrial	25.3
4. Extension or augmentation of three existing grid stations	69.1
5. Construction and operational equipment	10.6
Subtotal (A)	269.2
B. Contingencies^c	39.1
C. Financial Charges During Implementation^d	27.0
Total (A+B+C)	335.3

kV = kilovolt, MW = megawatt, SVS = static var system.

^a Includes taxes and duties of \$41.73 million to be financed by NTDC.

^b In end-2014 prices.

^c Physical contingencies are computed at 9.0% of total base costs comprising 8.5% for turnkey contracts and equipment, 10.0% for civil works, and 5.0% for project management. Price contingencies computed at average of 2.0% on foreign exchange costs and 15.0% on local currency costs. These do not include provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate given the short implementation period (2 years), foreign-denominated costs of materials, equipment and civil works, and fixed-price contracting.

^d Includes interest during construction and commitment charges. ADB loan will carry LIBOR-based interest calculated as 5-year fixed USD swap rate of 1.91% per annum, effective contractual spread of 0.50%, and maturity premium of 0.10% applicable for a 15.99-year average loan maturity. The ADB loan will be on-lent to NTDC at 15.0% per annum and will carry the same repayment and grace periods. Commitment charges are calculated at 0.15% on average undisbursed amount. The financing charges of the ADB loan during the implementation will be capitalized to the loan account while the interest charges of the on-lending will be financed by NTDC.

Source: Asian Development Bank estimates.

Table 5: Financing Plan
(\$ million)

Source	Amount	Percent to Total (%)
Asian Development Bank (OCR)	248.0	74
Government/NTDC	87.3	26
TOTAL	335.3	100

NTDC = National Transmission and Dispatch Company, OCR = ordinary capital resources.
Source: Asian Development Bank estimate.

E. Detailed Cost Estimates

Table 6: Detailed Cost Estimates by Expenditure Category
(\$ million)

Item	Local Funds (in USD million)			Foreign Funds (in USD million)			Total Project Cost	% of Total Base Cost
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost ^a		
A. Investment Costs^b								
1 Equipment			0	152.54		152.54	152.54	56.67%
2 Civil Works			0	27.38	7.35	34.73	34.73	12.90%
3 Turnkey Contract			0	17.40	3.70	21.10	21.10	7.84%
4 Environment and Social Mitigation		0.11	0.11			0	0.11	0.04%
5 Land Acquisition and Resettlement Plan		1.97	1.97			0	1.97	0.73%
6 Project Management		17.31	17.31			0	17.31	6.43%
7 Taxes and Duties		41.40	41.40			0	41.40	15.38%
Subtotal (A)	0	60.80	60.80	197.32	11.05	208.38	269.18	84.62%
B. Contingencies^c								
1 Physical		4.38	4.38	17.23	1.07	18.30	22.69	8.43%
2 Price			0	4.80	11.63	16.43	16.43	6.10%
Subtotal (B)	0	4.38	4.38	22.03	12.70	34.74	39.12	14.53%
C. Financial Charges During Implementation^d								
1 Interest During Implementation		22.13	22.13	4.40		4.40	26.53	0.00%
2 Commitment Charges			0	0.49		0.49	0.49	0.18%
Subtotal (C)	0.00	22.13	22.13	4.89	0	4.89	27.02	0.18%
Total Project Cost (A+B+C)	0.00	87.31	87.31	224.25	23.76	248.00	335.31	124.57%

^a As of 1 September 2014. Includes taxes and duties of \$41.73 million to be financed by NTDC.

^b In end-2014 prices.

^c Physical contingencies are computed at 9.0% of total base costs comprising 8.5% for turnkey contracts and equipment, 10.0% for civil works, and 5.0% for project management. Price contingencies computed at average of 2.0% on foreign exchange costs and 15.0% on local currency costs. These do not include provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate given the short implementation period (two years), foreign-denominated costs of materials, equipment and civil works, and fixed-price contracting.

^d Includes interest during construction and commitment charges. ADB loan will carry LIBOR-based interest calculated as 5-year fixed USD swap rate of 1.91% per annum, effective contractual spread of 0.50%, and maturity premium of 0.10% applicable for a 15.99-year average loan maturity. The ADB loan will be on-lent to NTDC at 15.00% per annum and carry the same repayment and grace periods. Commitment charges are calculated at 0.15% on average undisbursed amount. The financing charges of the ADB loan during the implementation will be capitalized to the loan account while the interest charges of the on-lending will be financed by NTDC.

Source: Asian Development Bank estimates.

Table 7: Detailed Cost Estimates by Financier
(\$ million)

Item	ADB		NTDC		Total Cost ^a
	Amount	% of Cost Category	Amount	% of Cost Category	
A. Investment Costs ^b					
1 Equipment	152.54	100.00%	0	0.00%	152.54
2 Civil Works	34.73	100.00%	0	0.00%	34.73
3 Turnkey Contract	21.10	100.00%	0	0.00%	21.10
4 Environment and Social Mitigation	0	0.00%	0.11	100.00%	0.11
5 Land Acquisition and Resettlement Plan	0	0.00%	1.97	100.00%	1.97
6 Project Management	0	0.00%	17.31	100.00%	17.31
7 Taxes and Duties	0		41.40	100.00%	41.40
Total Base Cost	208.38		60.80		269.18
C. Contingencies ^c	34.74	88.80%	4.38	11.20%	39.12
D. Financing Charges During Implementation ^d	4.89	18.10%	22.13	0.00%	27.02
Total Project Cost (A+B+C)	248.00		87.31		335.31
% Total Project Cost		74		26	

^a As of 1 September 2014. Includes taxes and duties of \$41.73 million to be financed by NTDC.

^b In end-2014 prices.

^c Physical contingencies are computed at 9.0% of total base costs comprising 8.5% for turnkey contracts and equipment, 10.0% for civil works, and 5.0% for project management. Price contingencies computed at average of 2.0% on foreign exchange costs and 15.0% on local currency costs. These do not include provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate given the short implementation period (two years), foreign-denominated costs of materials, equipment and civil works, and fixed-price contracting.

^d Includes interest during construction and commitment charges. ADB loan will carry LIBOR-based interest calculated as 5-year fixed USD swap rate of 1.91% per annum, effective contractual spread of 0.50%, and maturity premium of 0.10% applicable for a 15.99-year average loan maturity. This value will be capitalized to the loan account. The ADB loan will be on-lent to NTDC at 15% per annum and will carry the same repayment and grace periods. Commitment charges are calculated at 0.15% on average undisbursed amount. This value will be financed by NTDC. The financing charges of the ADB loan during the implementation will be capitalized to the loan account while the interest charges of the on-lending will be financed by NTDC.

Source: Asian Development Bank estimates.

Table 8: Detailed Cost Estimates by Component
(\$ million)

Item	Total Cost ^a	Component 1		Component 2		Component 3		Component 4		Component 5	
		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
A. Investment Costs^b											
1 Equipment	152.54	51.02	33.45%	46.27	30.34%	0	0.00%	46.57	30.53%	8.67	5.68%
2 Civil Works	34.73	14.50	41.75%	12.88	37.08%	0	0.00%	7.35	21.17%	0	0.00%
3 Turnkey Contract	21.10	0	0.00%	0	0.00%	21.10	100.00%	0	0.00%	0	0.00%
4 Environment and Social Mitigation	0.11	0.03	29.05%	0.07	66.83%	0	0.00%	0.00	4.12%	0	0.00%
5 Land Acquisition and Resettlement Plan	1.97	0.81	41.17%	1.16	58.83%	0	0.00%	0	0.00%	0	0.00%
6 Project Management	17.31	5.65	32.62%	7.38	42.64%	0.27	1.54%	4.02	23.20%	0	0.00%
7 Taxes and Duties	41.40	12.49	72.11%	11.90	68.72%	3.94	22.77%	11.17	64.52%	1.91	11.01%
Total Base Cost	269.18	84.50		79.67		25.31		69.12		10.57	
B. Contingencies ^c											
1 Physical	22.69	7.13	31.43%	6.60	29.10%	2.21	9.74%	5.84	25.76%	0.90	3.96%
2 Price	16.43	4.65	28.32%	4.74	28.81%	1.72	10.44%	4.81	29.25%	0.52	3.17%
Subtotal (B)	39.12	11.78		11.34		3.93		10.65		1.42	
C. Financial Charges During Implementation^d											
1 Interest During Implementation	26.53	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
2 Commitment Charges	0.49	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Subtotal (C)	27.02	0		0		0		0		0	
Total Project Cost (A+B+C)	335.31	96.29	0.00%	91.00	0.00%	29.24	0.00%	79.77	0.00%	11.99	0.00%

^a As of 1 September 2014. Includes taxes and duties of \$41.73 million to be financed by NTDC.

^b In end-2014 prices.

^c Physical contingencies are computed at 9.0% of total base costs comprising 8.5% for turnkey contracts and equipment, 10.0% for civil works, and 5.0% for project management. Price contingencies computed at average of 2.0% on foreign exchange costs and 15.0% on local currency costs. These do not include provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate given the short implementation period (two years), foreign-denominated costs of materials, equipment and civil works, and fixed-price contracting.

^d Includes interest during construction and commitment charges. ADB loan will carry LIBOR-based interest calculated as 5-year fixed USD swap rate of 1.91% per annum, effective contractual spread of 0.50%, and maturity premium of 0.10% applicable for a 15.99-year average loan maturity. The ADB loan will be on-lent to NTDC at 15.00% per annum and will carry the same repayment and grace periods. Commitment charges are calculated at 0.15% on average undisbursed amount. The financing charges of the ADB loan during the implementation will be capitalized to the loan account while the interest charges of the on-lending will be financed by NTDC.

Source: Asian Development Bank estimates.

Table 9: Detailed Cost Estimates by Year
(\$ million)

Item		Total Cost	2015	2016
A.	Investment Costs			
1	Equipment	152.54	30.51	122.03
2	Civil Works	34.73	6.95	27.79
3	Turnkey Contract	21.10	4.22	16.88
4	Environment and Social Mitigation	0.11	0.02	0.09
5	Land Acquisition and Resettlement Plan	1.97	0.39	1.58
6	Project Management	17.31	3.46	13.85
7	Taxes and Duties	41.40	8.28	33.12
	Total Base Cost	269.18	53.84	215.34
B.	Contingencies	39.12	6.34	32.78
C.	Financial Charges During Implementation	27.02	4.09	22.93
	Total Project Cost (A+B+C)	335.31	64.26	271.05
	% Total Project Cost	100%	19%	81%

F. Allocation and Withdrawal of Loan Proceeds

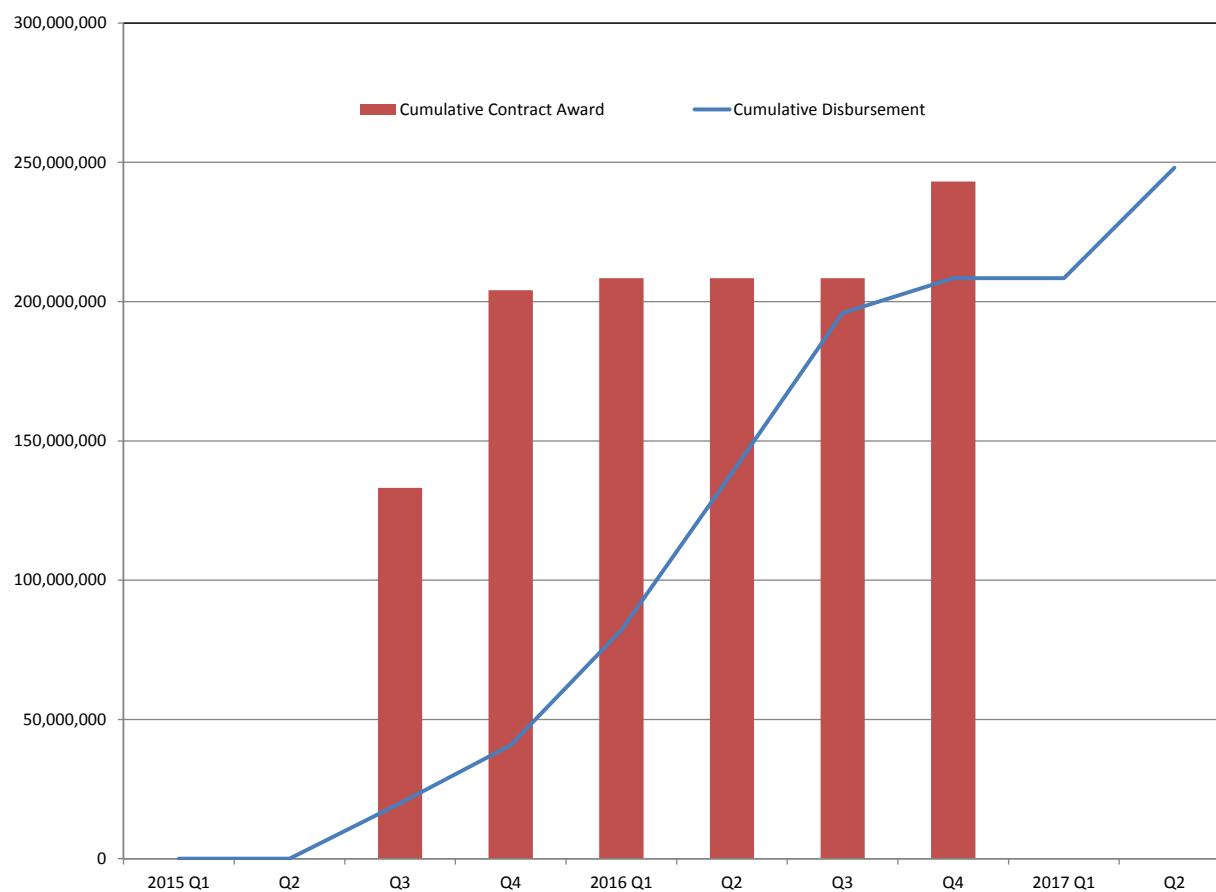
ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS (MFF-Power Transmission Enhancement Investment Program – Tranche 4)			
Category			ADB Financing
Number	Item	Total Amount Allocated for ADB Finance (\$ million)	Percentage and Basis for Withdrawal from the Loan Account
1	Equipment	152.54	100% of total amount claimed*
2	Civil works	34.73	100% of total amount claimed*
3	Turnkey contract	21.10	100% of total amount claimed*
4	Unallocated**	34.74	
5	ADB financial charges during implementation	4.89	100% of amount due
Total		248.00	

ADB = Asian Development Bank, MFF = multitranche financing facility.

* Exclusive of local taxes and duties.

**Includes ADB contingency allowance.

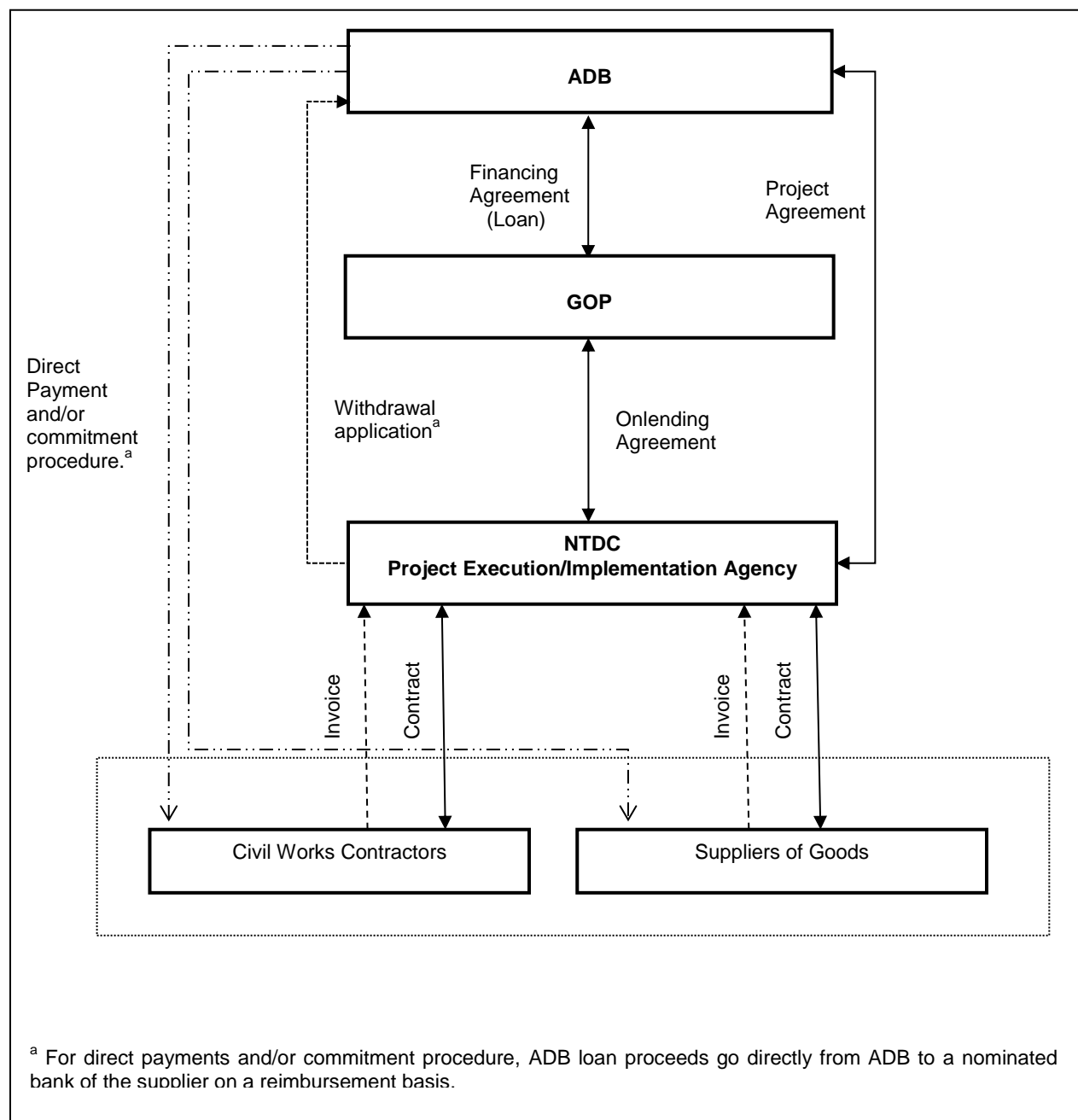
G. Contract Award and Disbursement Projections



Source: Asian Development Bank estimates.

Contract Awards (in USD million)						Disbursements (in USD million)					
	Q1	Q2	Q3	Q4	Total		Q1	Q2	Q3	Q4	Total
2015	-	-	133.14	70.90	204.04	2015	-	-	19.97	20.84	40.81
2016	4.34	-	-	34.74	39.08	2016	41.24	56.50	57.36	12.47	167.57
2017	-	-	-	-	-	2017	-	39.63	-	-	39.63
Total					243.11	Total					248.00

H. Funds Flow Diagram



ADB = Asian Development Bank, GOP = Government of Pakistan, NTDC = National Transmission and Despatch Company.

Source: Asian Development Bank.

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

17. The financial management assessment was conducted in September 2014 following ADB's Guidelines for the Financial Management and Analysis of Projects, and Financial Due Diligence: a Methodology Note. The financial management assessment considered NTDC's financial management capacity which included the funds-flow arrangements, staffing, accounting and financial reporting systems, internal and external auditing arrangements, and financial information systems.

18. The assessment identified the main financial management risks as: (i) financial risk – the risk that the revenue generation will be insufficient to recover costs, (ii) liquidity risk – the risk that a substantial amount of unpaid receivables will strain NTDC's cash position, (iii) incomplete and inaccurate financial reports due to manual consolidation and unreconciled transactions, and (iv) compliance risk – the risk that the project and NTDC will not comply with ADB's requirements on financial management. The overall financial management risk-rating of the project before considering mitigating measures is Substantial. An overview of the risks and mitigation measures is in Appendix 3. The identified financial management risks will be closely monitored during implementation. The financial management action plan is as follows:

Table 10. Financial Management Action Plan

Action	Responsibility	Resources	Timing
Implement a computerized accounting software to automate the accounting and reporting processes at the entity and project levels.	NTDC	USAID Project	Within 2 years
Provide project financial management training to NTDC staff to clarify ADB requirements (disbursement requirements and financial covenants calculation)	Accounts Department – Loan and LC	National Budget and Foreign assistance	Before project implementation
Submit projected NTDC financial statements and capital expenditure plans (5-year projection)	Accounts Department – Budget	Finance Director, NTDC	Before loan effectiveness
Review auditor terms of reference to confirm that scope and deliverables include ADB covenants among other items.	Finance Department	Finance Director, NTDC	6 months
Engage consultants for project supervision and monitoring	NTDC	ADB Loan	6 months

ADB = Asian Development Bank, LC = letter of commitment, NTDC = National Transmission and Despatch Company, USAID = United States Agency for International Development.

B. Disbursement

19. Disbursements may be made for eligible expenditures incurred by the loan closing date of 31 December 2016. Expenditures incurred beyond loan closing will not be financed by ADB. Disbursement procedures via direct payment and/or commitment procedures will follow ADB's *Loan Disbursement Handbook* (2012, as amended from time to time),⁴ and detailed arrangements agreed upon between the government and ADB.

20. Before submitting the first withdrawal application, the government should submit to ADB sufficient evidence of the authority and authenticated specimen signature(s) of the person(s) who will sign the withdrawal applications on their behalf.

21. The government may need to consolidate claims to meet the minimum value per withdrawal application of \$100,000, unless otherwise approved by ADB. Withdrawal applications and supporting documents will demonstrate, among other things that the goods, and/or services were produced in or from ADB members, and are eligible for ADB financing.

22. It is a condition of the Loan Agreement, that no withdrawals shall be made from the Loan Account until the Borrower has furnished a legal opinion(s) satisfactory to ADB: (a) specifying that the Subsidiary Loan Agreement has been duly authorized by, and executed and delivered, on behalf of the parties thereto and is legally binding upon the parties in accordance with its terms, subject only to the effectiveness of this Loan Agreement; and (b) enclosing a copy of such Subsidiary Loan Agreement. The government may need to consolidate claims to meet the minimum value per withdrawal application of \$100,000, unless otherwise approved by ADB. Withdrawal applications and supporting documents will demonstrate, among other things, that the goods, and/or services were produced in or from ADB members, and are eligible for ADB financing.

C. Accounting

23. NTDC will maintain separate books and records by funding source for all expenditures incurred under the project, and prepare consolidated project financial statements using the Cash-Based International Public Sector Accounting Standards or national equivalent.

D. Auditing

24. **Requirements.** NTDC will cause the detailed consolidated project financial statements to be audited following the International Standards on Auditing by an independent auditor acceptable to ADB. The audited project financial statements, together with the auditor's opinion, will be submitted in the English language to ADB within six months from the end of NTDC's fiscal year.

25. NTDC will also have its entity financial statements audited following the International Standards on Auditing by an independent auditor acceptable to ADB. NTDC's audited financial statements, together with the auditor's opinion and management letter, will be submitted in the English language to ADB within one month after their approval by the relevant authority, or within six months from the end of NTDC's fiscal year, whichever is earlier.

26. The auditor's management letter and opinions should cover (i) whether the project's

⁴ Available at: <http://www.adb.org/documents/loan-disbursement-handbook>.

financial statements present a true and fair view or are presented fairly, in all material respects, following the applicable financial reporting framework; (ii) whether the loan proceeds were used only for the purposes of the project or not; (iii) the level of compliance for each financial covenant in the loan and project agreements; and (v) the eligibility of the expenditures claimed under the statement of expenditure procedure, following the ADB's Loan Disbursement Handbook.

27. The government and NTDC have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.⁵ ADB reserves the right to require changing the auditor (consistent with the government's constitution), or provide additional support to the auditor, if the audit reports are not satisfactory to ADB, or substantially delayed. ADB also reserves the right to verify the project's financial accounts to confirm whether ADB's financing follows ADB's policies and procedures.

28. **Monitoring.** Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the independent auditor.

29. **Disclosure.** Following ADB's Public Communications Policy (2011),⁶ ADB will disclose the reviewed project financial statements and auditor's opinion thereon within 30 days from the date of their receipt on ADB's website. The auditor's management letter will not be disclosed.

VI. PROCUREMENT

A. Advance Contracting and Retroactive Financing

30. ADB approved advanced contracting for procurement of goods and works for all tranches under the MFF, including the project. ADB also approved retroactive financing for expenditures incurred during the 12-month period immediately prior to the signing of the loan agreement, not exceeding 20% of the loan amount. Such financing will be subject to compliance with the requirements in the subproject land acquisition and resettlement plans (LARPs, para. 34). The approval of advance contracting and retroactive financing does not commit ADB to finance the project.

31. Advance contracting will follow ADB's Procurement Guidelines⁷ (2013, as amended from time to time). The issuance of invitations for bid will be subject to ADB approval.

B. Procurement of Goods, Works and Consulting Services

32. **Packaging.** 13 contract packages will be procured across the 10 subprojects (Appendix 2). A maximum of 58 contracts would be awarded comprising (i) 46 contracts for goods; and (ii) 12 contracts for works, including the engineering, procurement, and construction (EPC) contract for the new SVS at the 220/132-kV Quetta industrial grid station (package ADB-74 for

⁵ ADB approach and procedures regarding Policy on delayed submission of audited project financial statements:

- When audited project financial statements are not received within six months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters. When audited project financial statements are not received within 12 months after the due date, ADB may suspend the loan.

⁶ Available from <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

⁷ Available at: <http://www.adb.org/Documents/Guidelines/Procurement/Guidelines-Procurement.pdf>

subproject 9). The detailed procurement implementation schedule is included in Appendix 1.

33. **Procurement method.** All procurement will follow ADB's Procurement Guidelines, using international competitive bidding (ICB), single-stage, one-envelope bidding procedure. ADB's User's Guide and Standard Bidding Documents⁸ for (i) Goods, (ii) Large Works, and (iii) Plant: Design, Supply, and Installation (for the EPC contract) will be used. The bidding documents for three contract packages for the 220-kV subprojects (ADB-70, 72, and 74) will be used as master bidding documents for NTDC to prepare the bidding documents for the 10 other contract packages for 500-kV subprojects.

C. Procurement Plan

Basic Data

Project Name: Power Transmission Enhancement Investment Program, Tranche-IV	
Project Number: 37192-043	Approval Number: [TBD]
Country: Pakistan (Federal)	Executing Agency: National Transmission and Despatch Company Limited (NTDC)
Project Procurement Classification: A	Implementing Agency: NTDC
Procurement Risk: High	
Project Financing Amount: \$313.93 million ADB Financing: \$248 million Cofinancing (ADB Administered): Not applicable Non-ADB Financing: \$87.31 million	Project Closing Date: 31 December 2016
Date of First Procurement Plan: 16 September 2014	Date of this Procurement Plan: 13 November 2014

A. Methods, Thresholds, Review and 18-Month Procurement Plan

1. Procurement and Consulting Methods and Thresholds

34. Except as ADB may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works		
Method	Threshold	Comments
International Competitive Bidding for Goods	\$2,000,000 and above	
International Competitive Bidding for Works	\$3,000,000 and above	
National Competitive Bidding (NCB) for Works 3	Beneath that stated for ICB, Works	
National Competitive Bidding for Goods 3	Beneath that stated for ICB, Goods	
Shopping for Works	Below \$100,000	
Shopping for Goods	Below \$100,000	

Consulting Services	
Method	Comments
Quality and Cost Based Selection (QCBS)	
Quality Based Selection	
Consultants' Qualifications Selection	
Least-Cost Selection	
Fixed Budget Selection	

⁸ Available at: <http://www.adb.org/site/business-opportunities/operational-procurement/goods-services/documents>.

2. Goods and Works Contracts Estimated to Cost \$1 Million or More

35. The following table lists goods and works contracts for which the procurement activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value (\$ m)	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
ADB-70	220-kV Grid Station Equipment Lot 1: Circuit breakers Lot 2: Isolators Lot 3: Instrument transformers Lot 4: 220-kV transformers Lot 5: Grid station hardware Lot 6: Control, relay and AC/DC panels Lot 7: Control and power cables, conductor Lot 8: Telecom equipment Lot 9: Gantry Lot 10: LA and post insulators	\$29.7m	ICB	Prior	1S1E	Q4 / 2014	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Goods
ADB-71	500-kV Grid Station Equipment Lot 1: Circuit breakers Lot 2: Isolators Lot 3: Instrument transformers Lot 4: 500-kV transformer bank Lot 5: Grid station hardware Lot 6: Control, relay and AC/DC panels Lot 7: Control and power cables, conductor Lot 8: Gantry Lot 9: Shunt reactor Lot 10: LA, post insulators	\$49.9m	ICB	Post	1S1E	Q1 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Goods
ADB-72	220-kV Grid Station Civil Works + ETC Lot 1: 220-kV Chakdara G/S Lot 2: 220-kV Noshehra G/S Lot 3: 220-kV D.I. Khan G/S Lot 4: 220-kV Lalian G/S	\$7.4m	ICB	Prior	1S1E	Q4 / 2014	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Large Works
ADB-73	500-kV Grid Station	\$7.9m	ICB	Post	1S1E	Q1 / 2015	Prequalification of

Package Number	General Description	Estimated Value (\$ m)	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	Civil Works Lot 1: 500-kV Gujranwala G/S Ext Lot 2: 500-kV Muzaffargarh G/S Ext Lot 3: 500-kV Rewat Aug. G/S Lot 4: 500-kV Jamshoro G/S Ext						Bidders: N Domestic Preference Applicable: Y Bidding Document: Large Works
ADB-74	EPC contract for SVC Quetta Industrial	\$21.1m	ICB	Prior	1S1E	Q4 / 2014	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Plant
ADB-75	GSO Construction Equipment - Transport Lot 1: Semi Low bed Trailer – 200 ton Lot 2: Self loader and Long Bed Trucks Lot 3: Tension and Pullers	\$4.3m	ICB	Post	1S1E	Q2 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Goods
ADB-76	GSO Construction Equipment Lot 1: 132-/11-kV transformers Lot 2: 220-V, 110-V and 48-V battery banks Lot 3: 220-V, 110-V and 48-V battery chargers Lot 4: Earthing material	\$4.3m	ICB	Post	1S1E	Q2 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Goods
ADB-77	Materials for (i) 220-kV Chashma - Ludewala T/L (100km) feed for D.I. Khan, (ii) 220-kV Gatti – Ludewala D/C T/L (4+4km) feed for Lalian, (iii) In/out of 220-kV Shahi Bagh – Mardan S/C at Chakdara New (85 km), iv) In/Out of 220-kV Ghazi Br Lot 1: Towers Lot 2: Conductor Lot 3: OPGW Lot 4: Hardware Lot 5: Insulators Lot 6: Dampers	\$16.6m	ICB	Prior	1S1E	Q4 / 2014	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Goods
ADB-78	Civil Works for 220-kV Transmission Lines Lot 1: DI Khan and Lalian Grid Stations	\$5.4m	ICB	Prior	1S1E	Q4 / 2014	Prequalification of Bidders: N

Package Number	General Description	Estimated Value (\$ m)	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	Lot 2: Nowshera and Chakdara Grid Stations						Domestic Preference Applicable: Y Bidding Document: Large Works
ADB-79 Package 1	Equipment for Transmission Lines- Materials for 500-kV Guddu-Muzaffargarh S/C T/Line (261 km) Lot 1: Towers Lot 2: Conductor Lot 3: OPGW Lot 4: Hardware Lot 5: Insulators Lot 6: Dampers	\$47.5m	ICB	Post	1S1E	Q4 / 2014	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Goods
ADB-79 Package 2	Equipment for Transmission Lines- Materials for In/Out of 500kV D.G.Khan – Multan T/Line (10+10 km) Lot 1: Towers Lot 2: Conductor Lot 3: OPGW Lot 4: Hardware Lot 5: Insulators Lot 6: Dampers	\$6.5m	ICB	Post	1S1E	Q4 / 2014	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Goods
ADB-80 Package 1	Civil Works for Transmission Lines- 500-kV Guddu-Muzaffargarh S/C T/L (261 km)	\$12.2m	ICB	Post	1S1E	Q4 / 2014	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Large Works
ADB-80 Package 2	Civil Works for Transmission Lines- In/Out of 500-KV DG Khan-Multan T/L (10+10km)	\$1.8m	ICB	Post	1S1E	Q4 / 2014	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Large Works

National Competitive Bidding

1. General

36. The procedures to be followed for national competitive bidding shall be those set forth in the Public Procurement Rules 2004 [S. R. O. 432 (1)/2004] issued on 9 June 2004 by the Public Procurement Regulatory Authority Ordinance 2002 (XXII of 2002) of the Islamic Republic of Pakistan with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of the ADB Procurement Guidelines.

2. Registration

- (i) Bidding shall not be restricted to pre-registered firms and such registration shall not be a condition for participation in the bidding process.
- (ii) Where registration is required prior to award of contract, bidders: (i) shall be allowed a reasonable time to complete the registration process; and (ii) shall not be denied registration for reasons unrelated to their capability and resources to successfully perform the contract, which shall be verified through post-qualification.

3. Prequalification

37. Normally, post-qualification shall be used unless prequalification is explicitly provided for in the loan agreement/procurement plan. Irrespective of whether post-qualification or prequalification is used, eligible bidders (both national and foreign) shall be allowed to participate.

4. Bidding Period

38. The minimum bidding period is 28 days prior to the deadline for the submission of bids.

5. Bidding Documents

39. Procuring entities shall use the applicable standard bidding documents for the procurement of goods, works and services acceptable to ADB.

6. Preferences

40. No domestic preference shall be given for domestic bidders and for domestically manufactured goods.

7. Advertising

41. Invitations to bid shall be advertised in at least one widely circulated national daily newspaper or freely accessible, nationally-known website allowing a minimum of 28 days for the preparation and submission of bids. NCB contracts estimated to cost \$500,000 or more for goods and related services and \$1,000,000 or more for civil works will be advertised on ADB's website via the posting of the Procurement Plan.

8. Bid Security

42. Where required, bid security shall be in the form of a bank guarantee from a reputable bank.

9. Bid Opening and Bid Evaluation

- (i) Bids shall be opened in public.
- (i) Evaluation of bids shall be made in strict adherence to the criteria declared in the bidding documents and contracts shall be awarded to the lowest evaluated bidder.
- (ii) Bidders shall not be eliminated from detailed evaluation on the basis of minor, nonsubstantial deviations.
- (iii) No bidder shall be rejected on the basis of a comparison with the employer's estimate and budget ceiling without the ADB's prior concurrence.
- (iv) A contract shall be awarded to the technically responsive bid that offers the lowest evaluated price and no negotiations shall be permitted.

10. Rejection of all Bids and Rebidding

43. Bids shall not be rejected and new bids solicited without ADB's prior concurrence.

11. Participation by Government-owned enterprises

44. Government-owned enterprises in the Islamic Republic of Pakistan shall be eligible to participate as bidders only if they can establish that they are legally and financially autonomous, operate under commercial law and are not a dependent agency of the contracting authority. Furthermore, they will be subject to the same bid and performance security requirements as other bidders.

12. ADB Member Country Restrictions

45. Bidders must be nationals of member countries of ADB, and offered goods and services must be produced in and supplied from member countries of ADB.

VII. SAFEGUARDS

A. Land Acquisition and Resettlement

46. Land acquisition and income rehabilitation will follow the requirements in ADB's Safeguard Policy Statement (SPS 2009, as amended from time to time),⁹ and the same stipulations in the land acquisition and resettlement framework for the project.

47. The Chakdar, D.I. Khan and Nowshera substations (subproject 3) will involve permanent land acquisition. There will be damages to crops and other assets lying in the right of way of the transmission line, access points and tower pads which have been quantified. Draft final LARPs have been prepared as required for each subproject and will be updated as part of the detailed design process, where efforts will be made to further minimize resettlement impacts. Replacement cost for land assets will be determined on consideration of fair market price and will include all transaction costs and other associated charges. A land acquisition surcharge of 15% will also be added. In the case of built-up structures, replacement cost is the current market cost of replacing the structure based on the cost of new construction, with no deduction for depreciation. Crop and tree losses are based on yield and market value of crops and on age and productivity of trees, respectively.

48. LARPs for each contract package will be finalized and submitted to ADB for review

⁹ Available at <http://www.adb.org/documents/safeguard-policy-statement>

based on the project implementation schedule (section II.B). On approval of the LARPs, each sectional LARP will be implemented prior to giving notice to the contractor to commence construction activities, and relevant internal monitoring reports will be submitted by the supervision consultant. In the case of Category A subproject, as is expected for Chakdara, an external monitor will be engaged by the executing agency and external monitoring and compliance reports submitted. Clearance of the sectional LARP monitoring reports by ADB is a prerequisite for commencing civil works activities. All LARPs will be summarized and disclosed to the affected people in the relevant project implementation units and district libraries. The PMU will submit quarterly internal monitoring reports, and is responsible for compliance with the land acquisition and resettlement framework, LARPs, and loan agreement.

B. Environment

49. To ensure compliance with the SPS, NTDC, through the PMU, will ensure implementation of the following requirements and procedures under the overall guidance of the environmental assessment and review framework. The PMU will:

- (i) complete the rapid environmental assessment checklists and classifying new subprojects;
- (ii) based on the completed rapid environmental assessment checklists and following the SPS, and national environmental rules and regulations, prepare as required either environmental impact assessment or initial environmental examination, and environmental management plans (EMPs);
- (iii) submit the checklists and environmental assessment reports to ADB as part of the approval of subprojects;
- (iv) include EMPs in bidding documents for future contracts;
- (v) obtain all regulatory clearances from the concerned environmental protection agency (provincial) before starting civil works;
- (vi) ensure that contractors prepare and implement site-specific EMPs;
- (vii) monitor the implementation of the site-specific EMP;
- (viii) disclose environment-related documents in the relevant PMUs and on the project website;
- (ix) in case of unpredicted environmental impacts occurring during project implementation, prepare and implement a corrective action plan; and
- (x) submit semiannual environmental monitoring reports to ADB.

C. Indigenous Peoples

50. No subproject will affect people classifiable as indigenous peoples as defined by the SPS.

VIII. GENDER AND SOCIAL DIMENSIONS

A. Gender

51. The project will address gender equality at an institutional level at NTDC. NTDC will ensure that the national anti-sexual harassment law at the workplace is appropriately implemented, and women benefit from new employment opportunities, and are included in training and career development. ADB, through the gender specialist in the Pakistan Resident Mission, will support implementation of gender features.

B. Social Dimensions

52. The project does not entail direct impacts on affordability, employment, HIV/AIDS, etc. However, the works contracts will explicitly state equal opportunities for all social groups, equal pay for equal work regardless of gender, and prohibition of child labor. Monitoring will be done by the PMU.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
Impact Enhanced power transmission operations and management	Full compliance with grid code and transmission license by 2018 (baseline: noncompliant in 2005) 10,500 GWh of additional power annually supplied through the grid by 2016 (baseline: 55,278 GWh in 2005)	NTDC's Annual Report NTDC's Annual Report	Assumptions Macroeconomic growth remains stable. Federal and provincial governments remain committed to power sector reforms. Planned generation projects successfully commissioned. Power demand continues to grow by 8% annually.
Outcome Expanded and reliable 500-kV and 220-kV transmission system	500-kV and 220-kV transmission losses reduced from 2.92% in 2013 to 2.62% in 2016. Transmission capacity to evacuate 2,000-MW additional power by 2016 from base line capacity of 22,000-MW in 2005.	NTDC's Annual Report NTDC's Annual Report	Assumptions Continued progress on policy, regulatory and institutional reforms in the power sector. Operations of distribution companies are strengthened. Risk Lack of capacity in NTDC to operate and maintain the systems.
Output Transmission lines and substations commissioned.	Extension of the 500-kV grid stations at Jamshoro and Gujranwala, and augmentation of the 500-kV Rewat grid station by 2016.	Implementation progress reports and loan review mission findings Commissioning licenses	Assumption Availability of qualified contractors. Risk Security uncertainties.

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
	<p>Addition of 281 km of 500-kV transmission line and extension of the 500-kV Muzaffargarh substation completed by 2016.</p> <p>Addition of four new 220-kV grid stations and 195 km associated in/out transmission lines at Chakdara, D.I. Khan, Lalian and Nowshehra completed by 2016.</p> <p>Establishment of a new SVS at the 220-kV Quetta industrial grid station by 2016</p>		
Activities with Milestones <ol style="list-style-type: none"> 1. Dispersal of power from the Guddu power plant through 281 km of 500-kV transmission line. <ol style="list-style-type: none"> 1.1. Field surveys and bidding documents completed by Q4 2014. 1.2. Bidding for goods and works contract packages completed by Q3 2015. 1.3. Design and procurement of equipment completed by Q2 2016. 1.4. Construction, erection, installation and commissioning of equipment completed by Q4 2016. 2. Installation of SVS at the 220-/132-kV the Quetta Industrial grid station. <ol style="list-style-type: none"> 2.1 Bidding documents completed by Q4 2014. 2.2 Bidding for turnkey contract package completed by Q2 2015. 2.3 Design, procurement, construction, erection, and installation of equipment completed by Q4 2016. 3. Addition of new 220-kV grid station and associated in/out transmission lines at Chakdara, D.I. Khan, Lalian, and Nowshehra. <ol style="list-style-type: none"> 3.1 Field surveys and bidding documents completed by Q4 2014. 3.2 Bidding for goods and works contract package completed by Q3 2015. 3.3 Design and procurement completed by Q2 2016 3.4 Construction, erection, installation and commissioning of equipment completed by Q4 2016. 4. Extension of 2 grid stations at Jamshoro and Gujranwala, and augmentation of 1 grid station at Gawat. <ol style="list-style-type: none"> 4.1 Field surveys and bidding documents completed by Q4 2014. 4.2 Bidding for goods and works contract package completed by Q2 2015. 4.3 Design and procurement completed by Q2 2016 4.4 Construction, erection, installation and commissioning of equipment completed by Q4 2016. 5. Procurement of construction and operations equipment. <ol style="list-style-type: none"> 5.1 Bidding Document preparation completed by Q4 2014. 5.2 Bidding completed by Q3 2015. 5.3 Equipment installation by NTDC completed Q1 2016. 			Inputs Tranche 4 ADB loan (OCR): \$248.0 million Government and NTDC: \$87.3 million

ADB = Asian Development Bank, GWh = gigawatt-hour, km = kilometer, kV = kilovolt, MFF = multitranches financing facility, MW = megawatt, OCR = Ordinary Capital Resources, NTDC = National Transmission and Despatch Company, SVS = static var system.

B. Monitoring

53. **Project performance monitoring.** The indicators below will be monitored and reported on in the quarterly progress reports (para. 49), and review missions (paras. 46 and 47). The financial indicators will be monitored annually during the audit of the financial statements (Section V.D):

- (i) annual power supplied through the grid (GWh),
- (ii) transmission losses,
- (iii) transmission capacity (MVA),
- (iv) annual net income after tax,
- (v) NTDC's annual debt-service coverage ratio (ratio of cash flow from operations to annual debt service obligations), and
- (vi) annual self-financing ratio (ratio of cash flow from operations to average capital expenditures).

54. **Compliance monitoring.** Loan covenants—policy, legal, financial, economic, environmental, and others—will be monitored through semi-annual review missions, and the midterm review.

55. **Safeguards monitoring.** Safeguards compliance will be performed by NTDC's PMU and external monitors as required (para. 36). The monitoring results will be included in the quarterly progress reports, and semi-annual environmental reports submitted to ADB.

56. **Gender and social dimensions monitoring.** Monitoring is not required for gender as the project does not have gender elements. Social dimensions, particularly equal employment opportunities for all social groups, equal pay for equal work regardless of gender, and prohibition of child labor will be monitored by NTDC's PMU. The monitoring results will be included in the quarterly progress reports, and semi-annual environmental reports.

C. Evaluation

57. **Inception mission.** ADB will field an inception mission after loan signing to re-establish the working relationship between ADB and NTDC, and ensure that the government understands ADB's procedures.

58. **Review missions.** ADB will field semiannual review missions to check overall project implementation, and update the project implementation schedule until the subprojects are complete.

59. **Midterm review mission.** ADB will field a midterm review mission within one year after loan effectiveness to assess whether attainment of the project's immediate objective (in terms of the design and monitoring framework) is still likely to be achieved.

60. **Project completion review mission.** ADB will field a project completion review mission after the project completion to prepare ADB's project completion report. NTDC will also submit a project completion report to ADB within six months of Project completion.

D. Reporting

61. NTDC will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system, covering (a) progress achieved by output as

measured through the indicators and targets in the project design and monitoring framework, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation schedule; and (ii) a project completion report (para. 48). To ensure the project continues to be both viable and sustainable, ADB will also review the audited project and NTDC's financial statements (section V.D).

E. Stakeholder Communication Strategy

62. Project information will be strategically disseminated through media at main milestones including loan signing, contract awards and project completion. Grievance redress mechanism will be established on site for each subproject.

63. In compliance with the minimum requirements of ADB's Public Communications Policy (2011), NTDC will be responsible for: (i) designating a focal point for regular contact with project-affected people and other stakeholders; (ii) identifying mechanisms for feedback during design and implementation; (iii) identifying details of types of information to be disclosed, and mechanisms for public notice including language and timing; and (iv) implementing and monitoring disclosure and dissemination.

64. Project documents will be disclosed on the ADB website. The following table outlines the framework of communication strategy to be implemented by ADB.

Project Documents	Means of Communication	Responsible Party	Frequency	Audience(s)
Design and Monitoring Framework (DMF)	ADB's website	ADB	Included in Report and Recommendations of the President	Project-affected people
Initial Environmental Examination	ADB's website	ADB	Post fact-finding mission, and as updated during project implementation	General public, project-affected people in particular
Resettlement Planning Documents	ADB's website	ADB	Post fact-finding mission, and as updated during project implementation	General public, project-affected people in particular
Report and Recommendations of the President	ADB's website	ADB	Within 2 weeks of approval of the loan	General public
Legal Agreements	ADB's website	ADB	No later than 14 days of approval of the project	General public
Project Administration Manual	ADB's website	ADB	After loan negotiations	General public, project-affected people in particular
Social and Environmental Monitoring Reports	ADB's website	ADB	Routinely disclosed, no specific requirements	General public
Major Change in Scope	ADB's website	ADB	Within 2 weeks of approval of the change	General public
Progress Reports	ADB's website	ADB	Within 2 weeks of circulation to Board or management approval	General public

Project Documents	Means of Communication	Responsible Party	Frequency	Audience(s)
Completion Reports	ADB's website	ADB	Within 2 weeks of circulation to Board for information	General public
Evaluation Reports	ADB's website	ADB	Routinely disclosed, no specific requirements	General public

X. ANTICORRUPTION POLICY

65. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the Project.¹⁰ All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.¹¹

66. To support these efforts, relevant provisions are included in the loan agreement/regulations and the bidding documents for the Project. Procurement will follow ADB's Procurement Guidelines, consultant selection will adopt ADB's Guidelines on the Use of Consultants, and disbursements will follow ADB's disbursement policies, guidelines, practices and procedures.

XI. ACCOUNTABILITY MECHANISM

67. People who are, or may in the future be, adversely affected by the project may address complaints to ADB, or request the review of ADB's compliance under the Accountability Mechanism.¹²

XII. RECORD OF PAM CHANGES

September 2014 1st version drafted.

Updated	PAM Section	Change	Appendix
September 2015	III. Key Persons involved in Implementation	Updated	4.1
	VI.C. Procurement Plan	Updated	4.2
December 2015	IV.G. Contract Award and Disbursement Projections	Revised after midterm review mission	4.3
	IX.A. Project Design and Monitoring Framework		4.4
	Appendix 1 - Procurement and Construction Schedules		4.5
September 2016	III. Key Persons involved in Implementation	Updated	4.1
	IV. F. Allocation and Withdrawal of Loan Proceeds	Revised after cancelling contract packages ADB-74, ADB-75, and ADB-80	4.6
	VI.C. Procurement Plan		4.2
	IX.A. Project Design and Monitoring Framework		4.4
October 2016	IV. F. Allocation and Withdrawal of Loan Proceeds	Revised after cancelling \$61 million.	4.6

¹⁰ Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

¹¹ ADB's Integrity Office web site is available at: <http://www.adb.org/integrity/unit.asp>

¹² For further information see: <http://compliance.adb.org/>.

Updated	PAM Section	Change	Appendix
December 2016	IX.A. Project Design and Monitoring Framework	Revised after extending MFF utilization period, and approving ADB's administration of cofinancing	4.4
	Appendix 1 - Procurement and Construction Schedules		4.5
	IV. F. Allocation and Withdrawal of Loan Proceeds		4.6
	IV. D. Financing Plan, and IV.E Cost Estimates		4.7

PROCUREMENT AND CONSTRUCTION SCHEDULES

Description	Dates														
	ADB Receipt Draft Bid Doc	ADB Approval Draft Bid Doc	Issue of Bid Invitation	Bid Opening	Bid Evaluation	Bid Evaluation Approval	Notice of Award/ Signing	Receipt Signed Contract	Contract Effectiveness	Design	Manufacturing	Inspection	Shipment	Customs Clearance	Inland Transportation
ADB-70: 220kV Grid Station Equipment	30-Sep-14	28-Nov-14	13-Dec-14	24-Jan-15	25-Mar-15	BOD NTDC Approval 09-Apr-15	award : 23-May-15	02-Jul-15	01-Aug-15	31-Aug-15	27-Feb-16	18-Mar-16	17-Apr-16	24-Apr-16	09-May-16
ICB Goods, 1S-1E							signing: 22-Jun-15								
Contract period: 270 days															
Lot I - CBs						ADB Receipt BER 16-Apr-15									
Lot II - Isolators															
Lot III - Instrument transformers															
Lot IV - 220-kV Transformers						ADB Approval 16-May-15									
Lot V - Grid Station Hardware															
Lot VI - Control, Relay and AC/DC Panels															
Lot VII - Control and Power Cables + Conductor															
Lot VIII - Telecom Equipment															
Lot IX - Gentries															
Lot X - LA + Post Insulators															

[illegible]

Description	Dates															
	ADB Receipt Draft Bid Doc	ADB Approval Draft Bid Doc	Issue of Bid Invitation	Bid Opening	Bid Evaluation	Bid Evaluation Approval	Notice of Award/ Signing	Receipt Signed Contract	Contract Effectiveness	Design	Procurement/Construction					Installation Testing Commissioning
											Manufacturing	Inspection	Shipment	Customs Clearance	Inland Transportation	
Lot I – 500-kV Gujranwala G/S Ext				23-Jun-15		ADB Receipt BER	22-Jul-15									
Lot II – 500-kV Muzaffargarh G/S Ext						16-May-15										
Lot III – 500-kV Rewat Aug. G/S																
Lot IV – 500-kV Jamshoro G/S Ext						ADB Approval										
						15-Jun-15										
ADB-74: EPC contract for SVS Quetta Industrial ICB Turnkey, 1S-1E Contract period: 540 days	30-Sep-14	28-Nov-14	19-Dec-14	30-Jan-15	31-Mar-15	BOD NTDC Approval 15-Apr-15 ADB Receipt BER 22-Apr-15	award : 29-May-15 signin g: 28-Jun-15	05-Jul-15	07-Aug-15	06-Oct-15	03-Apr-16	23-Apr-16	23-May-16	30-May-16	14-Jun-16	11-Dec-16
Bid Validity Expiration																

Bid Validity Expiration

Description	Dates															
	ADB Receipt Draft Bid Doc	ADB Approval Draft Bid Doc	Issue of Bid Invitation	Bid Opening	Bid Evaluation	Bid Evaluation Approval	Notice of Award/ Signing	Receipt Signed Contract	Contract Effectiveness	Design	Procurement/Construction					Installation Testing Commissioning
											Manufacturing	Inspection	Shipment	Customs Clearance	Inland Transportation	
Lot I – Towers				22-Jun-15		ADB Receipt BER 15-Apr-15 ADB Approval 15-May-15	21-Jun-15									
Lot II - Conductor																
Lot III - OPGW																
Lot IV - Hardware																
Lot V - Insulators																
Lot VI - Dampers																
ADB-78: Civil Works for Transmission Lines	30-Sep-14	28-Nov-14	14-Dec-14	25-Jan-15	26-Mar-15	BOD NTDC Approval 10-Apr-15 ADB Receipt BER 17-Apr-15	award: 24-May-15 signing : 23-Jun-15	03-Jul-15	02-Aug-15	01-Sep-15						24-Dec-16
ICB Works, 1S-1E																
Contract period: 510 days																
Lot I - Chasma-Ludewala-Gatti T/L																
220-kV Chasma-Ludewata T/L (100 km) feed for D.I. Khan				24-Jun-15												

[illegible]

Description	Dates															
	ADB Receipt Draft Bid Doc	ADB Approval Draft Bid Doc	Issue of Bid Invitation	Bid Opening	Bid Evaluation	Bid Evaluation Approval	Notice of Award/ Signing	Receipt Signed Contract	Contract Effectiveness	Design	Procurement/Construction				Installation Testing Commissioning	
											Manufacturing	Inspection	Shipment	Customs Clearance		Inland Transportation
Package 2 - In/Out of 500-kV D.G.Khan – Multan T/Line (10+10 km)																
Lot I - Towers																
Lot II - Conductor																
Lot III - OPGW																
Lot IV - Hardware																
Lot V - Insulators																
Lot VI - Dampers																
ADB-80: Civil Works for Transmission Lines ICB Goods, 1S-1E Contract period: 500 days Lot 1 – 500-kV Guddu-Muzaffargargh S/C T/L (261 km) Package 2 - In/Out of 500-kV DG Khan-Multan T/L (10+10 km)	31-Oct-14	12-Dec-14	29-Dec-14	09-Feb-15	10-Apr-15	BOD NTDC Approval 25-Apr-15 ADB Receipt BER 02-May-15 ADB Approval 01-Jun-15	award: 08-Jun-15 signing : 08-Jul-15	18-Jul-15	17-Aug-15	16-Oct-15						29-Dec-16

CONTRACT PACKAGING BY SUBPROJECT

Package/ Lot No.	Description	Number of Contracts									
		Component 1	Component 2				Component 3	Component 4			Component 5
		No. 1 Guddu Power Dispersal	No. 2 DI Khan Substation	No. 3 Nowshera Substation	No. 4 Lalian Substation	No. 5 Chakdara Substation	No. 6 Quetta SVS	No. 7 Jamshoro Extension	No. 8 Gujranwala Substation	No. 9 Rewat Augmentation	No. 10 Procurement of Equipment
ADB-70	220-kV Grid Station Equipment										
Lot I	CBs		1								
Lot II	Isolators		1								
Lot III	Instrument transformers		1								
Lot IV	220-kV Transformers		1								
Lot V	Grid Station Hardware		1								
Lot VI	Control, Relay and AC/DC Panels		1								
Lot VII	Control and Power Cables + Conductor		1								
Lot VIII	Telecom Equipment		1								
Lot IX	Gantries		1								
Lot X	LA + Post Insulators		1								

Package/ Lot No.	Description	Number of Contracts									
		Component 1	Component 2				Component 3	Component 4			Component 5
		No. 1 Guddu Power Dispersal	No. 2 DI Khan Substation	No. 3 Nowshera Substation	No. 4 Lalian Substation	No. 5 Chakdara Substation	No. 6 Quetta SVS	No. 7 Jamshoro Extension	No. 8 Gujranwala Substation	No. 9 Rewat Augmentation	No. 10 Procurement of Equipment
ADB-71	500-kV Grid Station Equipment										
Lot I	CBs								1		
Lot II	Isolators								1		
Lot III	Instrument transformers								1		
Lot IV	500- kV Transformer Bank								1		
Lot V	Grid Station Hardware								1		
Lot VI	Control, Relay and AC/DC Panels								1		
Lot VII	Control and Power Cables + Conductor								1		
Lot VIII	Gantries								1		
Lot IX	Shunt Reactor								1		
Lot X	LA + Post Insulators								1		

Package/ Lot No.	Description	Number of Contracts									
		Component 1	Component 2				Component 3	Component 4			Component 5
		No. 1 Guddu Power Dispersal	No. 2 DI Khan Substation	No. 3 Nowshera Substation	No. 4 Lalian Substation	No. 5 Chakdara Substation	No. 6 Quetta SVS	No. 7 Jamshoro Extension	No. 8 Gujranwala Substation	No. 9 Rewat Augmentation	No. 10 Procurement of Equipment
ADB-72	220-kV Grid Station Civil Works + ETC										
Lot I	220-kV Chakdara G/S		1								
Lot II	220-kV Noshehra G/S		1								
Lot III	220-kV D.I. Khan G/S		1								
Lot IV	220-kV Lalian G/S		1								
ADB-73	500-kV Grid Station Civil Works										
Lot I	500-kV Gujranwala G/S Ext							1			
Lot II	500-kV Muzaffargarh G/S Ext							1			
Lot III	500-kV Rewat Aug. G/S							1			
Lot IV	500-kV Jamshoro G/S Ext							1			

Package/ Lot No.	Description	Number of Contracts									
		Component 1	Component 2				Component 3	Component 4			Component 5
		No. 1 Guddu Power Dispersal	No. 2 DI Khan Substation	No. 3 Nowshera Substation	No. 4 Lalian Substation	No. 5 Chakdara Substation	No. 6 Quetta SVS	No. 7 Jamshoro Extension	No. 8 Gujranwala Substation	No. 9 Rewat Augmentation	No. 10 Procurement of Equipment
ADB-74	EPC contract for SVS Quetta Industrial Grid Station						1				
ADB-75	GSO Construction Equipment - Transport										
Lot I	Semi Low bed Trailer – 200 ton										1
Lot II	Self loader and Long Bed Trucks										1
Lot III	Tension and Pullers										1
ADB-76	GSO Construction Equipment										
Lot I	132-/11-kV transformers										1
Lot II	220-V, 110-V and 48-V battery banks										1
Lot III	220-V,110-V and 48-V battery chargers										1
Lot IV	Earthing material										1

Package/ Lot No.	Description	Number of Contracts									
		Component 1	Component 2				Component 3	Component 4			Component 5
		No. 1 Guddu Power Dispersal	No. 2 DI Khan Substation	No. 3 Nowshera Substation	No. 4 Lalian Substation	No. 5 Chakdara Substation	No. 6 Quetta SVS	No. 7 Jamshoro Extension	No. 8 Gujranwala Substation	No. 9 Rewat Augmentation	No. 10 Procurement of Equipment
ADB-77	Materials for (i) 220-kV Chashma–Ludewala T/L (100km) feed for D.I. Khan, (ii) 220-kV Gatti – Ludewala D/C T/L (4+4 km) feed for Lalian, (iii) In/out of 220-kV Shahi Bagh-Mardan S/C at Chakdara New (85 km), (iv) In/Out of 220-kV Ghazi Broth-Shahi Bagh D/C at Nowshera (5+5 km)										
Lot I	Towers				1						
Lot II	Conductor				1						
Lot III	OPGW				1						
Lot IV	Hardware				1						
Lot V	Insulators				1						
Lot VI	Dampers				1						
ADB-78	Civil Works for Transmission Lines										
Lot I	Chasma-Ludewala-Gatti T/L		1								
	220-kV Chasma-Ludewala T/L (100 km) feed for D.I. Khan										
	220-kV Gatti – Ludewala D/C T/L (4+4 km) feed for Lalian										
Lot II	Shahi Bagh - Mardan S/CO - Ghazi Brotha T/L				1						

Package/ Lot No.	Description	Number of Contracts									
		Component 1	Component 2				Component 3	Component 4			Component 5
		No. 1 Guddu Power Dispersal	No. 2 DI Khan Substation	No. 3 Nowshera Substation	No. 4 Lalian Substation	No. 5 Chakdara Substation	No. 6 Quetta SVS	No. 7 Jamshoro Extension	No. 8 Gujranwala Substation	No. 9 Rewat Augmentation	No. 10 Procurement of Equipment
	In/out of 220-kV Shahi Bagh – Mardan S/C at Chakdara New (85 km)										
	In/Out of 220-kV Ghazi Broth – Shahi Bagh D/C at Nowshehra (5+5 km)										
ADB-79	Equipment for Transmission Lines										
Package 1	Materials for 500-kV Guddu- Muzaffargarh S/C T/Line (261 km)										
Lot-I (Towers)	Towers	1									
Lot-II (Conduc -tor)	Conductor	1									
Lot-III (OPGW)	OPGW	1									

Package/ Lot No.	Description	Number of Contracts									
		Component 1	Component 2				Component 3	Component 4			Component 5
		No. 1 Guddu Power Dispersal	No. 2 DI Khan Substation	No. 3 Nowshera Substation	No. 4 Lalian Substation	No. 5 Chakdara Substation	No. 6 Quetta SVS	No. 7 Jamshoro Extension	No. 8 Gujranwala Substation	No. 9 Rewat Augmentation	No. 10 Procurement of Equipment
Lot-IV (Hardware)	Hardware	1									
Lot-V (Insulators)	Insulators	1									
Lot-VI	Dampers	1									
Package 2	Materials for In/Out of 500-kV D.G. Khan-Multan T/Line (10+10km)										
Lot I (Towers)	Towers	1									
Lot II (Conductor)	Conductor	1									
Lot III (OPGW)	OPGW	1									
Lot IV (Hardware)	Hardware	1									
Lot V (Insulators)	Insulators	1									
Lot IV	Dampers	1									

Package/ Lot No.	Description	Number of Contracts									
		Component 1	Component 2				Component 3	Component 4			Component 5
		No. 1 Guddu Power Dispersal	No. 2 DI Khan Substation	No. 3 Nowshera Substation	No. 4 Lalian Substation	No. 5 Chakdara Substation	No. 6 Quetta SVS	No. 7 Jamshoro Extension	No. 8 Gujranwala Substation	No. 9 Rewat Augmentation	No. 10 Procurement of Equipment
ADB-80	Civil Works for Transmission Lines										
Lot 1	500-kV Guddu- Muzaffargargh S/C T/L (261 km)	1									
Lot 2	In/Out of 500- kV DG Khan- Multan T/L (10+10 km)	1									
	Maximum No. of Contracts	14	22				1	14			7

Goods	45
Works	13

FINANCIAL MANAGEMENT RISK ANALYSIS

1. A financial management internal control and risk management assessment was conducted which considered existing circumstances, staffing and procedures, and includes recommendations for risk mitigation measures. Based on the assessment, it is concluded that the overall project financial management pre-mitigation risk is *Substantial*. The financial management pre-mitigation risk assessment included consideration of NTDC's management style, business strategy, experience, and supervisory and technical capability.

2. Inherent risk is the susceptibility of the project financial management system to factors arising from the environment in which it operates, such as country rules and regulations and entity working environment (assuming absence of any counter checks or internal controls).

Risk type	Risk Asst.*	Risk Description	Mitigation Measures
1. Country-Specific Risks	H	Budget Execution Risk – Actual expenditure deviates from budget estimates.	The government implemented Circular No. DW-3(1)2013-14-PSDP issued on 31 October 2013 which requires the submission of budget plans and monitoring of expenditures against budget of all state-owned entities including NTDC. Budget and expenditure monitoring is required to be performed monthly including submission of Budget and Expenditure Reconciliation Reports. Any deviations from approved budget will require justification and approval by the Ministry of Finance.
	M	Regulatory Risk (tariff determination) – Tariff set is insufficient to enable full cost-recovery.	NTDC conducts periodic reviews of tariff and its financial performance to ensure that the tariff level is sufficient to recover costs and assure a return on equity. NTDC submits petitions for tariff increase for NEPRA's review and determination. NEPRA is required to determine cost-reflective tariffs for NTDC under the NEPRA Act.
2. Entity-specific risks	M	Financial Risk – Revenue is insufficient to recover costs undermining financial sustainability.	NTDC conducts periodic reviews of tariff and its financial performance to ensure that the tariff level is sufficient to recover costs and assure a return on equity. Based on these periodic reviews, NTDC submits petitions for tariff increase for NEPRA's review and determination (refer to Regulatory Risk above). NEPRA is required to determine cost-reflective tariffs for NTDC under the NEPRA Act.

Risk type	Risk Asst.*	Risk Description	Mitigation Measures
	M	Liquidity Risk – Large outstanding trade receivables due to DISCOs with weak financial capacity strains NTDC's cash position.	Government provides implied financial support to NTDC through its national program to resolve circular debt that affects the power sector. Unpaid receivables from weak DISCOs are settled by the government. The funds are used by NTDC to pay for its outstanding obligations to generation companies.
	S	Incomplete and inaccurate financial reporting – Manual accounting processes increase likelihood of errors and omissions.	NTDC will implement the automated accounting software, ERP, under a USAID project which will significantly improve the financial statements preparation and facilitate reconciliation with the DISCOs. Implementation of the ERP system will be completed within two years. In the meantime, NTDC will continue to engage reputable audit firms to ensure that the financial statements are presented in accordance with the required accounting standards and are free of material misstatements or errors.
3. Project specific risks	M	Project Completion Risk – NTDC staff do not have sufficient understanding of disbursement procedures and requirements to manage the project fund flows which contributes to delays in project implementation.	ADB will finance all foreign costs, and will use the direct payment and commitment procedures to reduce administrative burden on NTDC staff. Reimbursement procedures will be used for small amounts. Training will be provided for staff to increase familiarity and improve application of ADB procedures and requirements which confirms the internal audit recommendation of increased staff training.
	M	Operational Inefficiency – Low salaries and dissatisfied staff lead to underperformance and financial loss.	Due to the high unemployment rate in the country, the market does not offer competitive compensation packages to attract staff from other entities, leaving little incentive for staff to consider employment elsewhere. NTDC provides some form of job security.
Overall Assessment of Inherent Risk	S		

ADB = Asian Development Bank, DISCOs = distribution companies, ERP = Enterprise Resource Planning, NEPRA = National Electric Power Regulatory Authority, NTDC = National Transmission and Despatch Company, PSDP = Public Sector Development Programme, USAID = United States Agency for International Development.

*H = high, S = substantial, M = moderate, N = negligible or low.

3. **Control Risk.** Control risk is the risk that the project's accounting and internal control framework are inadequate to ensure project funds are used economically and efficiently and for the purpose intended, and that the use of funds is properly reported.

Risk type	Risk Asst.*	Risk Description	Risk Mitigation Measures
1. Implementing entity	L	Compliance Risk – Project financial management policies and procedures are in place but not fully complied with.	The Finance Director is responsible for the preparation of project financial statements, disbursements, budget and expenditure monitoring, among others, and ensures that policies and procedures are adhered to. The Internal Audit Department provides additional oversight to ensure compliance. Noncompliance is managed through NTDC's Efficiency and Disciplinary Rules.
2. Funds flow	L	Financing Risk – Counterpart funds are not provided timely and adequately.	NTDC's 5-year Investment Program sets the capital investment requirement financed through NTDC's internally generated funds and external borrowings. This ensures that NTDC has sufficient capacity to finance future projects and reduce risks of project delays.
3. Staffing	M	Execution Risk – NTDC staff do not have sufficient understanding of financial management requirements and procedures which contributes to project delays and noncompliance with requirements.	Given NTDC's long business relationship with ADB, NTDC management has sufficient knowledge of ADB's requirements. Nonetheless, training will be provided for NTDC staff to clarify ADB's requirements, increase familiarity, and improve application. Financial reporting requirements (submission of financial statements and compliance with financial covenants) will be the primary focus in addition to disbursement procedures.
4. Accounting and reporting	S	Incomplete and inaccurate financial reporting – Manual accounting processes increase likelihood of errors and omissions.	NTDC will implement the automated accounting software, ERP, under a USAID project which will significantly improve the financial statements preparation and facilitate reconciliation with the DISCOs. Implementation of the ERP system will be completed within two years. In the meantime, NTDC will continue to engage reputable audit firms to ensure that the financial statements are presented in accordance with the required accounting standards and are free of material misstatements or errors.

Risk type	Risk Asst.*	Risk Description	Risk Mitigation Measures
5. External Audit	M	Compliance Risk – Audit requirements are not fully complied with due to external auditor's limited understanding of ADB requirements.	NTDC and ADB will jointly review audit requirements including financial covenants to ensure that the audit scope includes required opinion and assurances. Auditor terms of reference will be reviewed by ADB at NTDC's request.
6. Reporting and Monitoring	S	Financial Risk – Delayed submission of NTDC financial reports undermines ADB's ability to assess NTDC's capacity to implement, maintain, and operate the projects, and service its debt obligations.	NTDC will implement the automated accounting software, ERP, under a USAID project which will significantly improve the financial statements preparation and facilitate reconciliation with the DISCOs. Implementation of the ERP system will be completed within two years. In the meantime, NTDC will continue to improve its accounting and reconciliation processes to ensure timely submission of the entity audited financial statements. Audited project financial statements will continue to be submitted on time.
	M	Project Execution Risk - Poor project monitoring and accountability will delay project completion.	NTDC will engage project supervision consultants financed through ADB Investment Program Support Component (Loan2290).
7. Information Systems	S	Incomplete and inaccurate financial reporting - Manual accounting processes increase likelihood of errors and omissions.	NTDC will implement the automated accounting software ERP, under a USAID project which will significantly improve the financial statements preparation and facilitate reconciliation with the DISCOs. Implementation of the ERP system will be completed within two years. In the meantime, NTDC will continue to engage reputable audit firms to ensure that the financial statements are presented in accordance with the required accounting standards and are free of material misstatements or errors.
Overall Control Risk	S		

ADB = Asian Development Bank, DISCOs = distribution companies, ERP = Enterprise Resource Planning, NTDC = National Transmission and Despatch Company, USAID = United States Agency for International Development.

*H = high, S = substantial, M = moderate, N = negligible or low.

UPDATED KEY PERSONS INVOLVED IN IMPLEMENTATION

A. September 2015

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UPDATED PROCUREMENT PLAN

I. SEPTEMBER 2015

A. Methods, Thresholds, Review and 18-Month Procurement Plan

1. Procurement and Consulting Methods and Thresholds

1. Except as ADB may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works		
Method	Threshold	Comments
International Competitive Bidding for Goods	\$2,000,000 and above	
International Competitive Bidding for Works	\$3,000,000 and above	
National Competitive Bidding (NCB) for Works 3	Beneath that stated for ICB, Works	
National Competitive Bidding for Goods 3	Beneath that stated for ICB, Goods	
Shopping for Works	Below \$100,000	
Shopping for Goods	Below \$100,000	

Consulting Services	
Method	Comments
Quality and Cost Based Selection (QCBS)	
Quality Based Selection	
Consultants' Qualifications Selection	
Least-Cost Selection	
Fixed Budget Selection	

2. Goods and Works Contracts Estimated to Cost \$1 Million or More

2. The following table lists goods and works contracts for which the procurement activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advert. Date (qtr/year)	Comments
ADB-70	220kV Grid Station Eqpt	37,455,000.00	ICB	Prior	1S1E	Q3/ 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Advanced Contracting: Y Bidding Document: Goods
Lot 1	220 kV Circuit Breakers	1,600,000.00					
Lot 2	132 kV Circuit Breakers	850,000.00					
Lot 3	220 kV Isolators	1,175,000.00					
Lot 4	132 kV Isolators	915,000.00					
Lot 5	220 & 132 kV Instrument transformers	2,800,000.00					
Lot 6	220 /132 kV, 250 MVA Auto-Transformers	15,715,000.00					
Lot 7	Grid Station Hardware	1,240,000.00					
Lot 8	Control & Relay Panels	3,900,000.00					
Lot 9	Control and Power Cables	3,900,000.00					
Lot 10	Gantries	1,090,000.00					
Lot 11	132/11.5 kV Power Transformer	2,000,000.00					
Lot 12	220 & 132 kV Surge Arrestors	300,000.00					
Lot 13	Aluminum Conductor, Aluminum Pipe, Copper Conductor, Shield Wire	950,000.00					
Lot 14	Earthing Material	100,000.00					
Lot 15	Battery Banks & Battery	200,000.00					

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advert. Date (qtr/year)	Comments
Lot 16	Chargers	120,000.00					
Lot 17	11kV Switchgears	300,000.00					
Lot 18	11kV Transformers & Generators	300,000.00					
ADB-71	220kV & 132kV Post Insulators	300,000.00					
ADB-71	500kV Grid Station Equipment	23,191,703	ICB	Prior	1S1E	Q3/ 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Advanced Contracting: N Bidding Document: Goods
Lot 1	500 & 220 kV Circuit Breakers	3,430,431					
Lot 2	500 & 220 kV Isolators	1,265,683					
Lot 3	500 kV Instrument transformers	1,115,940					
Lot 4	220 kV Instrument transformers	210,137					
Lot 5	500 & 220 kV Surge Arrestors	185,535					
Lot 6	500/220 kV, 450 MVA Auto-Transformers Bank	3,937,500					
Lot 7	500/220 kV, 750 MVA Auto-Transformers Bank	4,172,719					
Lot 8	Transformers Bank	5,921,362					
Lot 9	Shunt Reactors	939,317					
Lot 10	Grid Station Hardware	79,641					
Lot 11	Control & Relay Panels	394,795					
Lot 12	Control and Power Cables	28,208					
Lot 13	Gantries	1,156,538					
Lot 14	Aluminum Conductor, Aluminum Pipe, Copper Conductor, Shield Wire	24,598					
Lot 15	Substation Grounding system	329,299					
ADB-72 Package 1	220kV Grid Station Civil Works + ETC	8,000,000	ICB	Prior	1S1E	Q3/ 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Advanced Contracting: Y Bidding Document: Small Works
Lot 1	220 kV Chakdara grid station	4,000,000					
Lot 2	220 kV D.I. Khan grid station	4,000,000					
ADB-72 Package 2	220kV Grid Station Civil Works + ETC	9,100,000.00	ICB	Prior	1S1E	Q3/ 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Advanced Contracting: Y Bidding Document: Small Works
Lot 1	220 kV Lalian grid station	4,500,000.00					
Lot 2	220 kV Nowshera grid station	4,600,000.00					
ADB-73	500 kV Grid Station Civil Works	3,200,000.00	ICB	Prior	1S1E	Q3/ 2015	Prequalification of Bidders: N Domestic Preference Applicable: N Advanced Contracting: N Bidding Document: Small Works
Lot 1	500 kV Gujranwala G/S Ext	1,100,000.00					
Lot 2	500 kV Rewat G/S Ext	100,000.00					
Lot 3	500 kV Muzzafargh aug Ext	1,100,000.00					
Lot 4	500 kV Jamshoro G/S Ext	900,000.00					
ADB-74	EPC contract for SVC Quetta Industrial	25,000,000	ICB	Prior	1S1E	Q3 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Advanced Contracting: Y Bidding Document: Plant
ADB-75	GSO Construction Equipment – Transport	5,300,000	ICB	Prior	1S1E	Q4 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y
Lot 1	Semi low bed trailer – 200	2,400,000					

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advert. Date (qtr/year)	Comments
Lot 2	ton Self loader and long bed trucks	1,500,000					Advanced Contracting: N Bidding Document: Goods
Lot 3	tension and pullers	500,000					
ADB-77	Materials for (i) 220kV Chashma - Ludewala T/L (100km) feed for D.I. Khan, (ii) 220kV Gatti – Ludewala D/C T/L (4+4km) feed for Lalian, (iii) In/out of 220kV Shahi Bagh – Mardan S/C at Chakdara New (85km), (iv) In/Out of 220kV Ghazi Br	18,550,000.00	ICB	Prior	1S1E	Q1 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Advanced Contracting: Y Bidding Document: Goods
Lot 1	Towers	7,000,000.00					
Lot 2	Conductor	9,000,000.00					
Lot 3	OPGW	300,000.00					
Lot 4	Hardware	700,000.00					
Lot 5	Dampers	600,000.00					
Lot 6	Insulators	950,000.00					
ADB-78	Civil Works for 220kV Transmission Lines	11,720,000.00	ICB	Prior	1S1E	Q1 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Advanced Contracting: Y Bidding Document: Large Works
Lot 1	220KV Chasma New- Ludewala T/L (100km) feed for D.I. Khan and 220kV Gatti – Ludewala D/C T/L (4+4km) feed for Lalian	6,230,000.00					
Lot 2	In/out of 220kV Shahi Bagh – Mardan S/C at Chakdara New (85km) and In/Out of 220kV Ghazi Broth – Shahi Bagh D/C at Nowshehra (5+5km)	5,490,000.00					
ADB-79	Equipment for Transmission Lines-Materials for 500kV	28,400,000.00	ICB	Prior	1S1E	Q2 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Advanced Contracting: N Bidding Document: Goods
Lot 1	Lot Towers	10,000,000.00					
Lot 2	Lot Conductor	12,000,000.00					
Lot 3	Lot OPGW	500,000.00					
Lot 4	Lot Hardware	1,000,000.00					
Lot 5	Lot Dampers	1,000,000.00					
Lot 6	Lot Insulators	3,900,000.00					
ADB-80	Civil Works for Transmission Lines-500 KV Guddu-Muzaffargargh S/C T/L (261km)	33,200,000.00	ICB	Prior	1S1E	Q2 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Advanced Contracting: N Bidding Document: Large Works
Lot 1	Guddu-Muzaffargargh (0-70km)	7,000,000.00					
Lot 2	Guddu-Muzaffargargh (70-140km)	7,200,000.00					
Lot 3	Guddu-Muzaffargargh (140-210 km)	7,000,000.00					
Lot 4	Guddu-Muzaffargargh (210-261 km), and (DG Khan-Multan (10+10km)	12,000,000.00					

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advert. Date (qtr/year)	Comments
ADB-81	EPC Grid Station Telecommunication Equipment	3,580,000.00	ICB	Prior	1S1E	Q3 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Advanced Contracting: N Bidding Document: Plant
Lot 1	Chakdara and D.I.Khan Grid Station Telcom EPC	1,140,000.00					
Lot 2	Nowshehra and Lalian Grid Stations Telcom EPC	1,190,000.00					
Lot 3	500kV Guddu, Muzaffargarh, New Multan, DG Khan Grid Stations Telcom EPC	1,250,000.00					

II. JULY 2016

A. Methods, Thresholds, Review and 18-Month Procurement Plan

1. Procurement and Consulting Methods and Thresholds

Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works		
Method	Threshold	Comments
International Competitive Bidding for Goods	US\$ 2,000,000 and Above	
International Competitive Bidding for Works	US\$ 3,000,000 and Above	

2. Goods and Works Contracts Estimated to Cost \$1 Million or More

The following table lists goods and works contracts for which the procurement activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
ADB-70	220kV Grid Station Equipment	14,310,000.00	ICB	Prior	1S1E	Q3 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Advance Contracting: Y Bidding Document: Goods
	Lot 1: 220 kV Circuit Breakers	1,600,000.00					
	Lot 2: 132 kV Circuit Breakers	850,000.00					
	Lot 3: 220 kV Isolators	1,175,000.00					
	Lot 4: 132 kV Isolators	915,000.00					
	Lot 5: 220 & 132 kV Instrument transformers	2,800,000.00					
	Lot 6: 220/132 kV, 250 MVA Auto-Transformers	0.00					
	Lot 7: Grid Station Hardware	0.00					
	Lot 8: Control & Relay Panels	0.00					
	Lot 9: Control and Power Cables	3,900,000.00					
	Lot 10: Gantries	0.00					
	Lot 11: 132/11.5 kV	2,000,000.00					

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	Power Transformer Lot 12: 220 & 132 kV Surge Arrestors Lot 13: Aluminum Conductor, Aluminum Pipe, Copper Conductor, Shield Wire Lot 14: Earthing Material Lot 15: Battery Banks & Battery Chargers Lot 16: 11 kV Switchgears Lot 17: 11 kV Transformers & Generators Lot 18: 220 kV & 132 kV Post Insulators	0.00 950,000.00 0.00 0.00 120,000.00 0.00 0.00					
ADB-70R-A	220 kV Grid Station Equipment (rebid) Lot 1: Grid station hardware Lot 2: Control and relay panels Lot 3: Control and relay panels Lot 4: Gantries Lot 5: 220/132 kV surge arrestors Lot 6: Earthing materials Lot 7: Battery banks and bank chargers Lot 8: 220/132 kV post insulators Lot 9: 11 kV pad mounted transformers, and 100 kVA generators	9,119,780.00 1,302,486.00 3,224,735.00 2,364,806.00 1,292,639.00 174,800.00 119,719.00 316,971.00 157,320.00 166,304.00	ICB	Prior	1S1E	Q2 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Goods Comments: Rebid of ADB-70 Lots VII, VIII, X, XII, XIV, XV, XVII, XVIII
B-70R-B	220 kV Grid Station Equipment (rebid)	11,341,554.00	ICB	Prior	1S1E	Q2 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Goods Comments: Rebid of ADB-70 Lot VI
ADB-71	500kV Grid Station Equipment Lot 1: (500 & 220 kV Circuit Breakers) Lot 2: (500 & 220 kV Isolators) Lot 3: (500 kV Instrument transformers) Lot 4: (220 kV Instrument transformers) Lot 5: (500 & 220 kV Surge Arrestors) Lot 6: (500/220 kV, 450 MVA Auto-Transformers Bank) Lot 7: (500/220 kV, 750	14,527,205.00 3,430,431.00 1,265,683.00 1,115,940.00 210,137.00 0.00 3,937,500.00 4,172,719.00	ICB	Prior	1S1E	Q3 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Advance Contracting: N Bidding Document: Goods

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	MVA Auto-Transformers Bank) Lot 8: (Shunt Reactors) Lot 9: (Grid Station Hardware) Lot 10: (Control & Relay Panels) Lot 11: (Control & Power Cables) Lot 12: (Gantries) Lot 13: (Aluminum Conductor, Aluminum Pipe, Copper Conductor, Shield Wire) Lot 14: (Substation Grounding System) Lot 15: (500 & 220 kV Post Insulators)	0.00 0.00 0.00 394,795.00 0.00 0.00 0.00 0.00 0.00					
ADB-71R-A	500 kV Grid Station Equipment (rebid) Lot 1: 500/220 kV surge arrestors Lot 2: Control and relay panels Lot 3: Gantries Lot 4: Substation grounding materials	2,594,256.00 206,650.00 898,068.00 1,425,230.00 64,308.00	ICB	Prior	1S1E	Q2 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Goods Comments: Rebid of ADB-71 Lots V, X, XII, XIV
ADB-71R-B	500 kV Grid Station Equipment (rebid) Lot 1: 500/√3 kV 3x37 MVAR shunt reactors Lot 2: grid station hardware Lot 3: aluminum pipe, AAC, copper conductor shield wire Lot 4: 500 kV and 220 kV post insulators	8,038,009.00 6,024,741.00 527,431.00 1,156,538.00 329,299.00	ICB	Prior	1S1E	Q3 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Goods Comments: Rebid of ADB-71 Lots VIII IX XIII XV
ADB-72R - Package 1	220kV Grid Station Civil Works + ETC Lot 1: 220 kV Chakdara grid station Lot 2: 220 kV D.I. Khan grid station	4,374,540.00 2,187,270.00 2,187,270.00	ICB	Prior	1S1E	Q2 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: Y Advance Contracting: Y Bidding Document: Small Works Comments: Advanced contracting/rebid
ADB-72R - Package 2	220kV Grid Station Civil works + ETC Lot 1: 220 kV Lalian grid station Lot 2: 220 kV Nowshera grid station	5,502,400.00 2,751,200.00 2,751,200.00	ICB	Prior	1S1E	Q2 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Small Works Comments: Advanced contracting/rebid

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
ADB-73R	500 kV Grid Station Civil Works Lot 1: Augmentation works at 500 KV grid station Rawat Lot 2: Extension works at 500 KV grid station Jamshoro	1,545,807.00 550,288.00 995,519.00	ICB	Prior	1S1E	Q2 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Small Works Comments: Rebid of ADB-73 Lots II and IV
ADB-77	Materials for (i) 220kV Chashma - Ludewala T/L (100km) feed for D.I. Khan, (ii) 220kV Gatti – Ludewala D/C T/L (4+4km) feed for Lalian, (iii) In/out of 220kV Shahi Bagh – Mardan S/C at Chakdara New (85km), (iv) In/Out of 220kV Ghazi Br Lot 1: Lot Towers Lot 3: Lot OPGW Lot 5: Lot Dampers Lot 6: Lot Insulators	8,850,000.00 7,000,000.00 300,000.00 600,000.00 950,000.00	ICB	Prior	1S1E	Q1 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Advance Contracting: Y Bidding Document: Goods
ADB-81	EPC Grid Station Telecommunication Equipment Lot 1: Chakdara and D.I.Khan Grid Stations Telecom EPC Lot 2: Nowshehra and Lalian Grid Stations Telecom EPC Lot 3: 500kV Guddu, Muzaffargarh, New Multan, DG Khan Grid Stations Telecom EPC Lot 4: For 500kV Neelum-Jehlum, Rawat and Nokhar Grid Stations and associated T/Lines	4,380,000.00 1,140,000.00 1,190,000.00 1,250,000.00 800,000.00	ICB	Prior	1S1E	Q3 / 2015	Prequalification of Bidders: N Domestic Preference Applicable: Y Bidding Document: Plant

3. Consulting Services Contracts Estimated to Cost \$100,000 or More

The following table lists consulting services contracts for which the recruitment activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value	Recruitment Method	Review (Prior/ Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
None							

4. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000 (Smaller Value Contracts)

The following table lists smaller-value goods, works and consulting services contracts for which the activity is either ongoing or expected to commence within the next 18 months.

Goods and Works and Consulting Services								
Package Number	General Description	Estimated Value	Number of Contracts	Procurement/ Recruitment Method	Review (Prior/ Post)	Bidding Procedure/ Type of Proposal	Advertisement Date (quarter/year)	Comments
None								

B. Indicative List of Packages Required Under the Project

The following table provides an indicative list of goods, works and consulting services contracts over the life of the project, other than those mentioned in previous sections (i.e., those expected beyond the current period).

Goods and Works / Consulting Services							
Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement/ Recruitment Method	Review (Prior/Post)	Bidding Procedure/ Type of Proposal	Comments
None							

C. Awarded and Ongoing Contracts

Goods and Works							
Package Number	General Description	Estimated Value	Awarded Contract Value	Procurement Method	Advertisement Date (quarter/year)	ADB Approval of Contract Award	Comments
ADB-73	500 kV Grid Station Civil Works	2,200,00 0.00	5,004,94 2.00	ICB	Q3 / 2015		
ADB-78	Civil Works for 220kV Transmission Lines	11,720,0 0.00	11,369,0 05.64	ICB	Q1 / 2015		Contract value is in USD equivalent
ADB-79	Equipment for Transmission Lines-Materials for 500kV	28,400,0 0.00	29,592,8 14.46	ICB	Q2 / 2015		Contract value for Lot II is in USD equivalent
ADB-77	Materials for (i) 220kV Chashma - Ludewala T/L (100km) feed for D.I. Khan, (ii) 220kV Gatti – Ludewala D/C T/L (4+4km) feed for Lalian, (iii) In/out of 220kV Shahi Bagh – Mardan S/C at Chakdara New (85km), (iv) In/Out of 220kV Ghazi Br	9,700,00 0.00	9,821,38 0.06	ICB	Q1 / 2015		Contract value for Lot II is in USD equivalent

Consulting Services							
Package Number	General Description	Estimated Value	Awarded Contract Value	Recruitment Method	Advertisement Date (quarter/year)	Date of ADB Approval of Contract Award	Comments
None							

REVISED CONTRACT AWARD AND DISBURSEMENT PROJECTIONS AFTER MIDTERM REVIEW MISSION

	Contract Awards (in USD million)					Disbursements (in USD million)					
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total	
2015	0.000000	0.000000	0.000000	19.260000	19.260000	0.000000	0.114700	0.000000	0.000000	0.114700	
2016	69.730000	61.650000	38.500000	53.970000	223.850000	6.351000	14.275200	56.277900	44.958600	121.862700	
2017	0.000000	0.000000	0.000000	0.000000	0.000000	42.390600	83.632000	0.000000	0.000000	126.022600	
Total Contract Awards:					243.110000	Total Disbursements:					248.000000

REVISED DESIGN AND MONITORING FRAMEWORK

A. After Midterm Review Mission

Design Summary	Performance Targets / Indicators	Data Sources / Reporting Mechanisms	Assumptions and Risks
Impact Enhanced power transmission operations and management.	Full compliance with grid code and transmission license by 2018 (baseline: noncompliant in 2005) 10,500 GWh of additional power annually supplied through the grid by 2016 (baseline: 55,278 GWh in 2005).	NTDC's Annual Report NTDC's Annual Report	Assumptions Macroeconomic growth remains stable. Federal and provincial governments remain committed to power sector reforms. Planned generation projects successfully commissioned. Power demand continues to grow by 8% annually.
Outcome An expanded and reliable 500-kV and 220-kV transmission system.	500-kV and 220-kV transmission losses reduced from 2.92% in 2013 to 2.62% in 2018. Transmission capacity to evacuate 2,000 MW additional power by 2018 from base line capacity of 22,000 MW in 2005.	NTDC's Annual Report. NTDC's Annual Report.	Assumptions Continued progress on policy, regulatory and institutional reforms in the power sector. Operations of distribution companies are strengthened. Risks Lack of capacity in NTDC to operate and maintain the systems.
Output Transmission lines and substations commissioned.	Extension of the 500-kV grid stations at Jamshoro and Gujranwala, and augmentation of the 500-kV Rewat grid station by 2017. Addition of 281 km of 500-kV transmission line and extension of the 500-kV Muzaffargarh substation completed by 2017. Addition of four new 220-kV grid stations and 195 km associated in/out transmission lines at Chakdara, D.I. Khan, Lalian, and Nowshehra completed by 2017.	Implementation progress reports and loan review mission findings. Commissioning licenses	Assumption Availability of qualified contractors. Risk Security uncertainties.

Design Summary	Performance Targets / Indicators	Data Sources / Reporting Mechanisms	Assumptions and Risks
	Establishment of a new static VAR system at 220-kV Quetta industrial grid station by 2017.		

Activities with Milestones

Transmission lines and substations commissioned.

Activity	Scheduled Start	Scheduled Finish	Inputs
Dispersal of power from the Guddu power plant through 281 km of 500-kV transmission line. 1.1 Field surveys and bidding documents completed by Q4 2015. 1.2 Bidding for goods and works contract packages completed by Q2 2016. 1.3 Design and procurement of equipment completed by Q2 2016. 1.4 Construction, erection, installation and commissioning of equipment completed with Government financing by Q3 2017.	Mar 01, 2015	Sep 30, 2017	OCR - \$243,110,000 Government - \$120,000,000
Installation of SVS at the 220-/132-kV the Quetta Industrial grid station. 2.1 Bidding documents completed by Q4 2015. 2.2 Bidding for turnkey contract package completed by Q2 2016. 2.3 Design, procurement, construction, erection, and installation of equipment completed with Government financing by Q4 2017.	Oct 01, 2014	Dec 31, 2017	
Addition of new 220-kV grid station and associated in/out transmission lines at Chakdara, D.I. Khan, Lalian, and Nowshehra. 3.1 Field surveys and bidding documents completed by Q2 2015. 3.2 Bidding for goods and works contract package completed by Q2 2016. 3.3 Design and procurement completed by Q4 2016. 3.4 Construction, erection, installation and commissioning of equipment completed with Government financing by Q3 2017.	Jul 01, 2014	Jul 31, 2017	
Extension of 2 grid stations at Jamshoro and Gujranwala, and augmentation of 1 grid station at Gawat. 4.1 Field surveys and bidding documents completed by Q3 2015. 4.2 Bidding for goods and works contract package completed by Q1 2016. 4.3 Design and procurement completed by Q4 2016. 4.4 Construction, erection, installation and commissioning of equipment completed with Government financing by Q2 2017.	May 01, 2015	Jun 30, 2017	
Procurement of construction and operations equipment. 5.1 Bidding Document preparation completed by Q4 2015. 5.2 Bidding completed by Q2 2016. 5.3 Equipment installation by NTDC completed Q4 2016.	Jul 01, 2015	Dec 31, 2016	

B. After Cancelling Contract Packages ADB-74, ADB-75, and ADB-80

Design Summary	Performance Targets / Indicators	Data Sources / Reporting Mechanisms	Assumptions and Risks
Impact Enhanced power transmission operations and management.	Full compliance with grid code and transmission license by 2018 (baseline: noncompliant in 2005) 10,500 GWh of additional power annually supplied through the grid by 2019 (baseline: 55,278 GWh in	NTDC's Annual Report NTDC's Annual Report	Assumptions remains stable. Federal and provincial governments remain committed to power sector reforms. Planned generation projects successfully

Design Summary	Performance Targets / Indicators	Data Sources / Reporting Mechanisms	Assumptions and Risks
	2005).		commissioned. Power demand continues to grow by 8% annually.
Outcome An expanded and reliable 500-kV and 220-kV transmission system.	500-kV and 220-kV transmission losses reduced from 2.92% in 2013 to 2.62% in 2019. Transmission capacity to evacuate 2,000 MW additional power by 2019 from base line capacity of 22,000 MW in 2005.	NTDC's Annual Report. NTDC's Annual Report.	Assumptions Continued progress on policy, regulatory and institutional reforms in the power sector. Operations of distribution companies are strengthened. Risks Lack of capacity in NTDC to operate and maintain the systems.
Output^a Transmission lines and substations commissioned.	Extension of the 500-kV grid stations at Jamshoro and Gujranwala, and augmentation of the 500-kV Rewat grid station by 2018. Addition of four new 220-kV grid stations and 195 km associated in/out transmission lines at Chakdara, D.I. Khan, Lalian, and Nowshehra completed by 2019.	Implementation progress reports and loan review mission findings. Commissioning licenses.	Assumptions Availability of qualified contractors. Risks Security uncertainties.

Activity ^a	Scheduled Start	Scheduled Finish	Inputs
3.1 Field surveys and bidding documents completed by Q3 2016. 3.2 Bidding for goods and works contract package completed by Q4 2016. 3.3 Design and procurement completed by Q4 2017. 3.4 Construction, erection, installation and commissioning of equipment completed with Government financing by Q4 2019.	Jul 01, 2014	Jul 31, Dec 31, 2019	OCR - US\$ 184,700,000 Govt - US\$ 120,000,000
Extension of 2 grid stations at Jamshoro, Muzaffargarh and Gujranwala, and augmentation of 1 grid station at Rawat. 4.1 Field surveys and bidding documents completed by Q3 2016. 4.2 Bidding for goods and works contract package completed by Q1 2017. 4.3 Design and procurement completed by Q4 2017. 4.4 Construction, erection, installation and	May 01, 2015	Jun Dec 31, 2018	

Activity ^a	Scheduled Start	Scheduled Finish	Inputs
commissioning of equipment completed with Government financing by Q4 2018.			

^a All project activities which take place after 31 December 2016 will be for the account of the National Transmission and Despatch Company. ADB will not finance any such activities.

C. After Extending MFF Utilization Period and Approving ADB's Administration of Cofinancing

Design Summary	Performance Targets/ Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
Impact Enhanced power transmission operations and management.			
Outcome An expanded and reliable 500-kV and 220-kV transmission system.	500-kV and 220-kV transmission losses reduced from 2.92% in 2013 to 2.62% in 2019. Transmission capacity to evacuate 2,000 MW additional power by 2019 from base line capacity of 22,000 MW in 2005.	NTDC's Annual Report. NTDC's Annual Report.	Assumptions Continued progress on policy, regulatory and institutional reforms in the power sector. Operations of distribution companies are strengthened. Risks Lack of capacity in NTDC to operate and maintain the systems.
Output^a Transmission lines and substations commissioned.	Extension of the 500-kV grid stations at Jamshoro and Gujranwala, and augmentation of the 500-kV Rewat grid station by 2018. Addition of four new 220-kV grid stations and 195 km associated in/out transmission lines at Chakdara, D.I. Khan, Lalian, and Nowshehra completed by 2019.	Implementation progress reports and loan review mission findings. Commissioning licenses.	Assumption Availability of qualified contractors. Risks Security uncertainties.

Activity ^a	Scheduled Start	Scheduled Finish	Inputs
1. Extension of 2 grid stations at Jamshoro, Muzaffargarh and Gujranwala, and augmentation of 1 grid station at Rawat. 1.1 Field surveys and bidding documents completed by Q3 2016. 1.2 Bidding for goods and works contract package completed by Q1 2017. 1.3 Design and procurement completed by Q4 2017. 1.4 Construction, erection, installation and commissioning of equipment completed with Government financing by Q4 2018.	May 01, 2015	Dec 31, 2018	OCR - \$123,700,000 Government - \$121,800,000 AFD – EUR 75 million
2. Addition of four new 220-kV grid stations and 195 km associated in/out transmission lines at Chakdara, D.I. Khan, Lalian, and Nowshehra completed by 2019. 2.1 Field surveys and bidding documents completed by Q3 2016. 2.2 Bidding for goods and works contract package completed by Q4 2016. 2.3 Design and procurement completed by Q4 2017. 2.4 Construction, erection, installation and commissioning of equipment completed with Government financing by Q4 2019.	Jul 01, 2014	Dec 31, 2019	

AFD = Agence Française de Développement, DISCO = distribution company, GWh = gigawatt-hour, kV = kilovolt, MFF = multitranché financing facility, NEPRA = National Electric Power Regulatory Authority, NTDC = National Transmission and Despatch Company, PFR = periodic financing request, Q = quarter, T = Tranche, WAPDA = Water and Power Development Authority

^a All project activities which take place after 31 December 2016 will be for the account of the National Transmission and Despatch Company, with cofinancing from AFD. Asian Development Bank will not finance any such activities.

PAM CHANGES

REVISED PROCUREMENT AND CONSTRUCTION SCHEDULES

A. After Midterm Review Mission

Package No.	Description		ADB Receipt Draft Bid Doc	ADB Comment Draft Bid Doc	ADB Receipt Final Bid Doc	ADB Approval Final Bid Doc	Issue of Bid Invitation	Bid Opening	Consultant Prepare BER	Bid Evaluation (CCC Approval)	ADB Cand. NO BER	NTDC MD Approval	NTDC BOD Bid Evaluation Approval	ADB Approval	Public Notification	Notice of Award / Letter of Acceptance	Bid Validity Expiration	Signing	ADB Receipt Signed Contract	Contract Effectiveness/ Commencement	Inland Transportation Procurement/ Construction	Installation Testing Commissioning
ADB-70	220kV G/S Equipment				18	5	7	45	45	21	7	14	14	0	12	1	150	28	7	30	240	
# Days	[Input actuals]	Actual/Proj.	05-May-15	07-May-15	08-Jun-15	09-Jun-15	24-Jul-15	01-Oct-15	15-Nov-15	06-Dec-15	13-Dec-15	27-Dec-15	10-Jan-16	10-Jan-16	22-Jan-16	23-Jan-16	28-Feb-16	20-Feb-16	27-Feb-16	21-Mar-16	16-Nov-16	
	Master BD-Goods	Cum. Diff.	(132)	(101)	(115)	(111)	(149)	(173)	(173)	(179)			(184)	(179)		(185)	(173)	(185)	(185)	(185)	(185)	
ADB-71	500kV G/S Equipment			5	5	5	7	42	45	21	7	14	14	0	12	1	150	28	7	30	240	
# Days	[Input actuals]	Actual/Proj.	02-Jul-15	07-Jul-15	27-Jul-15	28-Jul-15	01-Sep-15	16-Nov-15	31-Dec-15	21-Jan-16	28-Jan-16	11-Feb-16	25-Feb-16	25-Feb-16	08-Mar-16	09-Mar-16	14-Apr-16	06-Apr-16	13-Apr-16	06-May-16	01-Jan-17	
		Cum. Diff.	(124)	(124)	(139)	(135)	(163)	(194)	(194)	(200)			(205)	(200)		(206)	(194)	(206)	(206)	(206)	(206)	
ADB-72	G/S 220kV Civil Works			30	60	5	7	45	45	14	7	14	14	0	12	1	180	28	7	30		365
# Days	[Input actuals]	Actual/Proj.	02-Jan-15	29-Jan-15	26-Jun-15	30-Jun-15	04-Jul-15	18-Aug-15	08-Oct-15	13-Nov-15	20-Nov-15	04-Dec-15	18-Dec-15	18-Dec-15	30-Dec-15	31-Dec-15	14-Feb-16	28-Jan-16	04-Feb-16	30-Jan-16		15-May-17
	Master BD-Small Works	Cum. Diff.	-	(3)	(91)	(90)	(87)	(87)	(93)	(114)			(119)	(114)		(120)	(87)	(118)	(118)	(90)		(196)
Contract	Package 2 - Nowshera & Lalian	Base Case	02-Jan-15	26-Jan-15	27-Mar-15	01-Apr-15	08-Apr-15	23-May-15	07-Jul-15	22-Jul-15			21-Aug-15	26-Aug-15		02-Sep-15	19-Nov-15	02-Oct-15	09-Oct-15	01-Nov-15		31-Oct-16
# Days	[Input actuals]	Actual/Proj.	02-Jan-15	29-Jan-15	05-Jun-15	09-Jun-15	04-Jul-15	19-Aug-15	08-Oct-15	13-Nov-15	20-Nov-15	04-Dec-15	18-Dec-15	18-Dec-15	30-Dec-15	31-Dec-15	15-Feb-16	28-Jan-16	04-Feb-16	30-Jan-16		15-May-17
		Cum. Diff.	-	(3)	(70)	(69)	(87)	(88)	(93)	(114)			(119)	(114)		(120)	(88)	(118)	(118)	(90)		(196)
ADB-73	G/S 500kV Civil Works			5	5	5	7	45	45	14	7	14	14	0	12	1	180	60	30	30		180
# Days	[Input actuals]	Actual/Proj.	14-May-15	22-May-15	03-Jul-15	07-Jul-15	05-Aug-15	22-Sep-15	06-Nov-15	20-Nov-15	27-Nov-15	11-Dec-15	25-Dec-15	25-Dec-15	06-Jan-16	07-Jan-16	20-Mar-16	07-Mar-16	06-Apr-16	06-Feb-16		30-Jun-17
		Cum. Diff.	(45)	(48)	(85)	(84)	(106)	(109)	(109)	(108)			(113)	(108)		(114)	(109)	(144)	(167)	(84)		(229)
ADB-74	SVS Quetta Industrial			5	5	5	7	45	45	14	7	14	14	0	12	1	180	28	7	30		540
# Days	[Input actuals]	Actual/Proj.	20-Nov-15	25-Nov-15	30-Nov-15	05-Dec-15	12-Dec-15	26-Jan-16	11-Mar-16	25-Mar-16	01-Apr-16	15-Apr-16	29-Apr-16	29-Apr-16	11-May-16	12-May-16	24-Jul-16	09-Jun-16	16-Jun-16	09-Jul-16		31-Dec-17
	Master BD-EPC	Cum. Diff.	(250)	(250)	(250)	(250)	(250)	(235)	(235)	(229)			(234)	(229)		(235)	(235)	(233)	(233)	(233)		(233)
ADB-75	GSO Construction Eqpt			7	5	5	7	45	45	14	7	14	14	0	12	1	150	28	7	30	150	
# Days	[Input actuals]	Actual/Proj.	01-Jan-16	08-Jan-16	13-Jan-16	18-Jan-16	25-Jan-16	10-Mar-16	24-Apr-16	08-May-16	15-May-16	29-May-16	12-Jun-16	12-Jun-16	24-Jun-16	25-Jun-16	07-Aug-16	23-Jul-16	30-Jul-16	22-Aug-16	19-Jan-17	
		Cum. Diff.	(277)	(274)	(274)	(274)	(274)	(274)	(274)	(273)			(278)	(273)		(279)	(279)	(279)	(279)	(279)	(279)	
ADB-77	Equipment for 220kV T/L			7	5	5	17	45	45	14	7	14	14	0	12	1	148	28	7	0	180	
# Days	[Input actuals]	Actual/Proj.	09-Dec-14	13-Jan-15	26-Jan-15	27-Jan-15	12-Feb-15	14-May-15	09-Sep-15	22-Oct-15	13-Nov-15	27-Nov-15	11-Dec-15	11-Dec-15	23-Dec-15	24-Dec-15	11-Nov-15	21-Jan-16	28-Jan-16	21-Jan-16	21-Jun-16	
		Cum. Diff.	-	-	-	-	1	(45)	(118)	(146)			(166)	(161)		(167)	(76)	(167)	(167)	(195)	(167)	
ADB-78	Civil Works for 220kV T/L			30	22	5	15	45	45	14	7	14	14	0	12	1	180	60	30	0		510
# Days	[Input actuals]	Actual/Proj.	23-Dec-14	21-Jan-15	29-Jan-15	19-Feb-15	27-Mar-15	04-Jun-15	10-Sep-15	13-Oct-15	25-Nov-15	09-Dec-15	23-Dec-15	23-Dec-15	04-Jan-16	05-Jan-16	30-Jan-16	05-Mar-16	04-Apr-16	05-Mar-16		28-Jul-17
	Master BD-Large Works	Cum. Diff.	-	-	(16)	(1)	(25)	(78)	(96)				(137)	(132)		(138)	(85)	(168)	(191)	(168)	(256)	
ADB-79	Equipment for 500kV T/L			5	7	5	7	45	45	14	7	14	14	0	12	1	150	28	5	0	180	
Contract	[Input actuals]	Actual/Proj.	17-Mar-15	10-Apr-15	29-Apr-15	05-May-15	19-May-15	13-Jul-15	03-Sep-15	02-Oct-15	26-Oct-15	09-Nov-15	14-Nov-15	14-Nov-15	26-Nov-15	27-Nov-15	10-Dec-15	25-Dec-15	30-Dec-15	25-Dec-15	22-Jun-16	
# Days	180	Cum. Diff.	(7)	(26)	(38)	(39)	(46)	(56)	(63)	(77)			(90)	(85)		(91)	(56)	(91)	(89)	(119)	(119)	
ADB-80	Civil Works 500kV T/L			5	7	5	5	45	45	14	7	14	14	0	12	1	180	28	30	0		450
Contract	[Input actuals]	Actual/Proj.	30-Nov-15	05-Dec-15	12-Dec-15	17-Dec-15	22-Dec-15	05-Feb-16	21-Mar-16	04-Apr-16	11-Apr-16	25-Apr-16	09-May-16	09-May-16	21-May-16	22-May-16	03-Aug-16	19-Jun-16	19-Jul-16	19-Jun-16		12-Sep-17
# Days	450	Cum. Diff.	(260)	(260)	(260)	(260)	(258)	(258)	(258)	(257)			(262)	(257)		(263)	(258)	(261)	(284)	(261)	(176)	
ADB-81	EPC G/S Telecom			10	10	10	7	45	45	14	7	14	14	0	12	1	180	28	7	30		365
# Days	[Input actuals]	Actual/Proj.	19-May-15	11-Jun-15	28-Jun-15	30-Jun-15	27-Jul-15	02-Nov-15	17-Dec-15	31-Dec-15	07-Jan-16	21-Jan-16	04-Feb-16	04-Feb-16	16-Feb-16	17-Feb-16	30-Apr-16	16-Mar-16	23-Mar-16	15-Apr-16		14-Jun-17
		Cum. Diff.	(50)	(63)	(70)	(62)	(82)	(135)	(135)	(134)			(139)	(164)		(145)	(135)	(143)	(143)	(143)	(196)	

B. After Extending MFF Utilization Period and Approving ADB's Administration of Cofinancing

ADB-70	220kV G/S Equipment (Master BD Goods)		10	10	5	7	45	45	21	7	14	20	0	16	3	150	45	7	45	240
	Lot I - 220 kV Circuit Breakers	22-Jul-14	7-Nov-14	5-Jun-15	8-Jun-16	10-Jun-15	1-Oct-15	23-Nov-15	02-Feb-16	28-Mar-16					14-Jun-16	28-Feb-16	10-Aug-16	18-Aug-16	24-Sep-16	23-Mar-17
	Lot II - 132 kV Circuit Breakers	22-Jul-14	7-Nov-14	5-Jun-15	8-Jun-16	10-Jun-15	1-Oct-15	23-Nov-15	01-Feb-16	28-Mar-16					31-Oct-16	28-Feb-16	15-Dec-16	22-Dec-16	29-Jan-17	28-Jul-17
	Lot III - 220 kV Isolators	22-Jul-14	7-Nov-14	5-Jun-15	8-Jun-16	10-Jun-15	1-Oct-15	25-Nov-15	02-Feb-16	23-Feb-16					14-Jun-16	28-Feb-16	10-Aug-16	18-Aug-16	24-Sep-16	23-Mar-17
	Lot IV - 132 kV Isolators	22-Jul-14	7-Nov-14	5-Jun-15	8-Jun-16	10-Jun-15	1-Oct-15	23-Nov-15	01-Feb-16	28-Mar-16					23-Jun-16	28-Feb-16	30-Jun-16	23-Aug-16	14-Aug-16	10-Feb-17
	Lot V - 220 & 132 kV Instrument transformers + Las	22-Jul-14	7-Nov-14	5-Jun-15	8-Jun-16	10-Jun-15	1-Oct-15	25-Nov-15	02-Feb-16	28-Mar-16					11-Jun-16	28-Feb-16	10-Aug-16	16-Aug-16	24-Sep-16	23-Mar-17
ADB-70RB	Lot VI - 220 /132 kV, 250 MVA Auto-Transformers	18-Apr-16	28-Apr-16	08-May-16	13-May-16	20-May-16	29-Aug-16	15-Nov-16	06-Dec-16	13-Dec-16	27-Dec-16	16-Jan-17	16-Jan-17	01-Feb-17	04-Feb-17	26-Jan-17	21-Mar-17	28-Mar-17	12-May-17	07-Jan-18
ADB-70RA Lot I	Lot VII - Grid Station Hardware	18-Apr-16	28-Apr-16	08-May-16	13-May-16	20-May-16	06-Sep-16	15-Nov-16	06-Dec-16	13-Dec-16	27-Dec-16	16-Jan-17	16-Jan-17	01-Feb-17	04-Feb-17	03-Feb-17	21-Mar-17	28-Mar-17	12-May-17	09-Oct-17
ADB-70RA Lots II & III	Lot VIII - Control & Relay Panels	18-Apr-16	28-Apr-16	08-May-16	13-May-16	20-May-16	06-Sep-16	15-Nov-16	06-Dec-16	13-Dec-16	27-Dec-16	16-Jan-17	16-Jan-17	01-Feb-17	04-Feb-17	03-Feb-17	21-Mar-17	28-Mar-17	12-May-17	08-Nov-17
	Lot IX - Control and Power Cables	22-Jul-14	7-Nov-14	5-Jun-15	8-Jun-16	10-Jun-15	1-Oct-15	16-Nov-16	18-Jan-16	04-Feb-16					09-Jun-16	28-Feb-16	29-Jul-16	16-Aug-16	30-Sep-16	29-Mar-17
ADB-70RA Lot IV	Lot X - Gantries	18-Apr-16	28-Apr-16	08-May-16	13-May-16	20-May-16	06-Sep-16	15-Nov-16	06-Dec-16	13-Dec-16	27-Dec-16	16-Jan-17	16-Jan-17	01-Feb-17	04-Feb-17	03-Feb-17	21-Mar-17	28-Mar-17	12-May-17	09-Oct-17
	Lot XI - 132/111.5 kV Power Transformers	22-Jul-14	7-Nov-14	5-Jun-15	8-Jun-16	10-Jun-15	1-Oct-15	10-Nov-16	27-Jan-16	24-Feb-16					17-Jun-16	28-Feb-16	15-Jul-16	03-Aug-16	17-Sep-16	16-Mar-17
ADB-70R-A Lot V	Lot XII - 220 & 132 kV Surge Arrestors	18-Apr-16	28-Apr-16	08-May-16	13-May-16	20-May-16	06-Sep-16	15-Nov-16	06-Dec-16	13-Dec-16	27-Dec-16	16-Jan-17	16-Jan-17	01-Feb-17	04-Feb-17	03-Feb-17	21-Mar-17	28-Mar-17	12-May-17	08-Nov-17
	Lot XIII - Aluminum Conductor, Aluminum Pipe, Copper Conductor, Shield Wire	22-Jul-14	7-Nov-14	5-Jun-15	8-Jun-16	10-Jun-15	1-Oct-15	30-Oct-16	18-Jan-16	04-Feb-16					09-Jun-16	28-Feb-16	29-Jul-16	16-Aug-16	30-Sep-16	27-Feb-17
ADB-70R-A Lot VI	Lot XIV - Earthing Material	18-Apr-16	28-Apr-16	08-May-16	13-May-16	20-May-16	06-Sep-16	15-Nov-16	06-Dec-16	13-Dec-16	27-Dec-16	16-Jan-17	16-Jan-17	01-Feb-17	04-Feb-17	03-Feb-17	21-Mar-17	28-Mar-17	12-May-17	09-Sep-17
ADB-70R-A Lot VII	Lot XV - Battery Banks & Battery Chargers	18-Apr-16	28-Apr-16	08-May-16	13-May-16	20-May-16	06-Sep-16	15-Nov-16	06-Dec-16	13-Dec-16	27-Dec-16	16-Jan-17	16-Jan-17	01-Feb-17	04-Feb-17	03-Feb-17	21-Mar-17	28-Mar-17	12-May-17	09-Oct-17
	Lot XVI - 11 kV Switchgears	22-Jul-14	7-Nov-14	5-Jun-15	8-Jun-16	10-Jun-15	1-Oct-15	06-Nov-16	27-Jan-16	24-Feb-16					11-Jun-16	28-Feb-16	15-Jul-16	03-Aug-16	17-Sep-16	14-Feb-17
ADB-70R-A Lot IX	Lot XVII - 11 kV Transformers & Generators	18-Apr-16	28-Apr-16	08-May-16	13-May-16	20-May-16	06-Sep-16	15-Nov-16	06-Dec-16	13-Dec-16	27-Dec-16	16-Jan-17	16-Jan-17	01-Feb-17	04-Feb-17	03-Feb-17	21-Mar-17	28-Mar-17	12-May-17	09-Oct-17
ADB-70R-A Lot VIII	Lot XVIII - 220 kV & 132 kV Post Insulators	18-Apr-16	28-Apr-16	08-May-16	13-May-16	20-May-16	06-Sep-16	15-Nov-16	06-Dec-16	13-Dec-16	27-Dec-16	16-Jan-17	16-Jan-17	01-Feb-17	04-Feb-17	03-Feb-17	21-Mar-17	28-Mar-17	12-May-17	08-Nov-17
ADB-71	500kV G/S Equipment		5	5	5	7	45	45	30	14	14	20	0	16	3	150	45	7	45	240
	Lot I - 500 & 220 kV Circuit Breakers	06-May-15	07-May-15	27-Jul-15	28-Jul-15	15-Aug-15	16-Nov-15	23-Dec-15	15-Mar-16	1-Apr-16					15-Jun-16	14-Apr-16	15-Jul-16	3-Aug-16	29-Aug-16	25-Feb-17
	Lot II - 500 & 220 kV Isolators	06-May-15	07-May-15	27-Jul-15	28-Jul-15	15-Aug-15	16-Nov-15	30-Dec-15	15-Mar-16	1-Apr-16					14-Jun-16	14-Apr-16	9-Aug-16	29-Aug-16	23-Sep-16	22-Mar-17
	Lot III - 500 kV Instrument transformers	06-May-15	07-May-15	27-Jul-15	28-Jul-15	15-Aug-15	16-Nov-15	30-Dec-15	15-Mar-16	22-Mar-16					12-Jul-16	14-Apr-16	5-Aug-16	29-Aug-16	19-Sep-16	18-Mar-17
	Lot IV - 220 kV Instrument transformers	06-May-15	07-May-15	27-Jul-15	28-Jul-15	15-Aug-15	16-Nov-15	30-Dec-15	15-Mar-16	6-May-16					14-Jun-16	14-Apr-16	9-Aug-16	29-Aug-16	23-Sep-16	22-Mar-17
ADB-71R-A Lot I	Lot V - 500 & 220 kV Surge Arrestors	4-Mar-16	18-Mar-16	28-Mar-16	30-Mar-16	1-Apr-16	12-Jul-16	3-Oct-16	2-Nov-16	16-Nov-16	30-Nov-16	20-Dec-16	20-Dec-16	5-Jan-17	8-Jan-17	9-Dec-16	22-Feb-17	1-Mar-17	8-Apr-17	05-Oct-17
	Lot VI - 500/220 kV, 450 MVA Auto-Transformers Bank	6-May-15	7-May-15	27-Jul-15	28-Jul-15	15-Aug-15	16-Nov-15	29-Dec-15	15-Mar-16	1-Apr-16					27-Jun-16	14-Apr-16	28-Jul-16	29-Aug-16	11-Sep-16	09-May-17
	Lot VII - 500/220 kV, 750 MVA Auto-Transformers Bank	6-May-15	7-May-15	27-Jul-15	28-Jul-15	15-Aug-15	16-Nov-15	31-Dec-15	15-Mar-16	1-Apr-16					10-Jun-16	14-Apr-16	28-Jul-16	31-Aug-16	11-Sep-16	09-May-17
ADB-71R-B Lot I	Lot VIII - Shunt Reactors	27-Jun-16	5-Jul-16	5-Sep-16	5-Sep-16	6-Sep-16	25-Oct-16	9-Dec-16	8-Jan-17	22-Jan-17	5-Feb-17	25-Feb-17	25-Feb-17	13-Mar-17	16-Mar-17	24-Mar-17	30-Apr-17	7-May-17	14-Jun-17	09-Feb-18
ADB-71R-B Lot II	Lot IX - Grid Station Hardware	27-Jun-16	5-Jul-16	5-Sep-16	5-Sep-16	6-Sep-16	25-Oct-16	9-Dec-16	8-Jan-17	22-Jan-17	5-Feb-17	25-Feb-17	25-Feb-17	13-Mar-17	16-Mar-17	24-Mar-17	30-Apr-17	7-May-17	14-Jun-17	11-Nov-17
ADB-71R-A Lot II	Lot X - Control & Relay Panels	4-Mar-16	18-Mar-16	28-Mar-16	30-Mar-16	1-Apr-16	12-Jul-16	15-Oct-16	14-Nov-16	28-Nov-16	12-Dec-16	1-Jan-17	1-Jan-17	17-Jan-17	20-Jan-17	9-Dec-16	6-Mar-17	13-Mar-17	20-Apr-17	17-Sep-17
	Lot XI - Control and Power Cables	6-May-15	7-May-15	27-Jul-15	28-Jul-15	15-Aug-15	16-Nov-15	23-Dec-15	15-Mar-16	22-Mar-16					21-Jun-16	14-Apr-16	2-Aug-16	29-Aug-16	16-Sep-16	14-Jan-17
ADB-71R-A Lot III	Lot XII - Gantries	4-Mar-16	18-Mar-16	28-Mar-16	30-Mar-16	1-Apr-16	12-Jul-16	8-Aug-16	15-Oct-16	29-Oct-16	12-Nov-16	2-Dec-16	2-Dec-16	18-Dec-16	21-Dec-16	9-Dec-16	4-Feb-17	11-Feb-17	21-Mar-17	19-Jul-17
ADB-71R-B Lot III	Lot XIII - Aluminum Conductor, Aluminum Pipe, Copper Conductor, Shield Wire	27-Jun-16	5-Jul-16	5-Sep-16	5-Sep-16	6-Sep-16	25-Oct-16	9-Dec-16	8-Jan-17	22-Jan-17	5-Feb-17	25-Feb-17	25-Feb-17	13-Mar-17	16-Mar-17	24-Mar-17	30-Apr-17	7-May-17	14-Jun-17	12-Oct-17
ADB-71R-A Lot IV	Lot XIV - Substation Grounding system - SHOPPING	8-Sep-16	15-Nov-16	20-Nov-16	25-Nov-16	2-Dec-16	16-Dec-16	6-Jan-17	27-Jan-17	3-Feb-17	17-Feb-17	9-Mar-17	9-Mar-17	25-Mar-17	28-Mar-17	15-May-17	11-Apr-17	18-Apr-17	26-May-17	23-Sep-17
ADB-71R-B Lot IV	Lot XV - 500 & 220 kV Post Insulators	27-Jun-16	5-Jul-16	5-Sep-16	5-Sep-16	6-Sep-16	25-Oct-16	9-Dec-16	8-Jan-17	22-Jan-17	5-Feb-17	25-Feb-17	25-Feb-17	13-Mar-17	16-Mar-17	24-Mar-17	30-Apr-17	7-May-17	14-Jun-17	11-Nov-17
ADB-72R	G/S 220kV Civil Works (Master BD Small Works)		10	10	5	7	42	60	30	14	14	20	0	16	3	180	45	7	45	300
Package 1 - DI Khan & Chakdara	Lot I - 220 kV Chakdara G/S	18-Jan-16	22-Jan-16	13-Feb-16	15-Feb-16	23-Feb-16	04-May-16	22-Jun-16	30-Jun-16	17-Aug-16	31-Aug-16	20-Sep-16	20-Sep-16	06-Oct-16	09-Oct-16	31-Oct-16	23-Nov-16	30-Nov-16	14-Jan-17	06-Jul-18
	Lot II - 220 kV D.I. Khan G/S	18-Jan-16	22-Jan-16	13-Feb-16	15-Feb-16	23-Feb-16	04-May-16	22-Jun-16	30-Jun-16	17-Aug-16	31-Aug-16	20-Sep-16	20-Sep-16	06-Oct-16	09-Oct-16	31-Oct-16	23-Nov-16	30-Nov-16	14-Jan-17	06-Jul-18
Package 2 - Nowshera & Lalian	Lot I - 220 kV Lalian G/S	18-Jan-16	22-Jan-16	13-Feb-16	15-Feb-16	23-Feb-16	05-May-16	28-Jun-16	02-Aug-16	01-Sep-16	15-Sep-16	05-Oct-16	05-Oct-16	25-Oct-16	28-Oct-16	01-Nov-16	12-Dec-16	19-Dec-16	02-Feb-17	06-Jul-18
	Lot II - 220kV Noshera G/S	18-Jan-16	22-Jan-16	13-Feb-16	15-Feb-16	23-Feb-16	05-May-16	27-Jun-16	22-Jul-16	01-Sep-16	15-Sep-16	05-Oct-16	05-Oct-16	25-Oct-16	28-Oct-16	01-Nov-16	12-Dec-16	19-Dec-16	02-Feb-17	06-Jul-18
ADB-73	G/S 500kV Civil Works		10	10	5	7	45	45	21	7	14	14	0	16	3	180	45	7	45	180
	Lot I - 500 kV Gujranwala G/S Ext	14-May-15	22-May-15	03-Jul-15	07-Jul-15	05-Aug-15	22-Sep-15	06-Nov-15	30-Dec-15	15-Jan-16					05-May-16	20-Mar-16	28-Jun-16	21-Jul-16	19-Jun-16	08-Aug-18
ADB-73R Lot I	Lot II - 500 kV Rewat Aug. G/S	31-Mar-16	05-Apr-16	30-Apr-16	05-May-16	12-May-16	01-Jul-16	08-Aug-16	16-Sep-16	18-Oct-16	01-Nov-16	15-Nov-16	15-Nov-16	01-Dec-16	04-Dec-16	28-Dec-16	18-Jan-17	25-Jan-17	18-Jan-17	09-Jun-18
	Lot III - 500kV Muzaffargarh G/S Ext	14-May-15	22-May-15	03-Jul-15	07-Jul-15	05-Aug-15	22-Sep-15	06-Nov-15	30-Dec-15	15-Jan-16					05-May-16	20-Mar-16	28-Jun-16	21-Jul-16	19-Jun-16	08-Aug-18
ADB-73R Lot II	Lot IV - 500 kV Jamshoro G/S Ext	31-Mar-16	05-Apr-16	15-Apr-16	20-Apr-16	27-Apr-16	01-Jul-16	08-Aug-16	16-Sep-16	18-Oct-16	01-Nov-16	15-Nov-16	15-Nov-16	01-Dec-16	04-Dec-16	28-Dec-16	18-Jan-17	25-Jan-17	18-Jan-17	08-Aug-18
ADB-77	Equipment for 220kV T/L		0	0	0	17	45	45	14	7	14	14	0	16	3	150	45	7	45	180
	Lot I - Towers	09-Dec-14	13-Jan-15	26-Jan-15	27-Jan-15	13-Feb-15	30-Mar-15	09-Sep-15	27-Nov-15	02-Dec-15					15-Apr-16	27-Feb-16	08-Jun-16	15-Jun-16	23-Jul-16	19-Jan-17
	Lot II - Conductor	09-Dec-14	13-Jan-15	26-Jan-15	27-Jan-15	13-Feb-15	30-Mar-15	09-Sep-15	27-Nov-15	02-Dec-15					26-Feb-16	27-Feb-16	04-Apr-16	11-Apr-16	19-May-16	15-Nov-16
	Lot III - OPGW	09-Dec-14	13-Jan-15	26-Jan-15	27-Jan-15	13-Feb-15	30-Mar-15	09-Sep-15	27-Nov-15	02-Dec-15					30-Jul					

PAM CHANGES

Package No.	Description		ADB Comment/Draft Bid Doc	ADB Receipt Final Bid Doc	ADB Approval Final Bid Doc	Issue of Bid Invitation	Bid Opening	Consultant/NTDC Prepare BER	Bid Evaluation (CCC approval)	ADB Cond. NO BER	NTDC MD Approval	NTDC BOD Bid Evaluation Approval	ADB Approval	Complete Public Notification	Notice of Award / Letter of Acceptance	Bid Validity Expiration	Signing	ADB Receipt Signed Contract	Contract Effectiveness/ Commencement	Inland Transportation		Installation/ Testing Commissioning
																				Procurement/ Construction		
ADB-79	Equipment for 500kV T/L		5	7	5	7	45	45	14	7	14	14	0	12	3	150	45	5	45	180		
	Lot I - Towers	17-Mar-15	10-Apr-15	29-Apr-15	05-May-15	19-May-15	13-Jul-15	04-Sep-15	30-Sep-15	22-Oct-15					07-Dec-15	10-Dec-15	29-Jan-16	20-Mar-16	14-Mar-16	10-Sep-16		
	Lot II - Conductor	17-Mar-15	10-Apr-15	29-Apr-15	05-May-15	19-May-15	13-Jul-15	04-Sep-15	30-Sep-15	21-Oct-15					02-Dec-15	10-Dec-15	28-Dec-15	28-Dec-15	11-Feb-16	09-Aug-16		
	Lot III - OPGW	17-Mar-15	10-Apr-15	29-Apr-15	05-May-15	19-May-15	13-Jul-15	04-Sep-15	30-Sep-15	15-Oct-15					29-Nov-15	10-Dec-15	19-Jan-16	20-Mar-16	04-Mar-16	31-Aug-16		
	Lot IV - Hardware	17-Mar-15	10-Apr-15	29-Apr-15	05-May-15	19-May-15	13-Jul-15	04-Sep-15	30-Sep-15	16-Oct-15					29-Nov-15	10-Dec-15	15-Jan-16	20-Mar-16	29-Feb-16	27-Aug-16		
	Lot V - Dampers	17-Mar-15	10-Apr-15	29-Apr-15	05-May-15	19-May-15	13-Jul-15	04-Sep-16	30-Sep-16	22-Oct-16					29-Nov-15	10-Dec-15	29-Mar-16	05-Jul-16	13-May-16	09-Nov-16		
	Lot VI - Insulators	17-Mar-15	10-Apr-15	29-Apr-15	05-May-15	19-May-15	13-Jul-15	04-Sep-16	30-Sep-16	13-Oct-16					29-Nov-15	10-Dec-15	29-Jan-16	20-Mar-16	14-Mar-16	10-Sep-16		
ADB-81	EPC G/S Telecom		10	10	10	7	45	45	30	14	14	20	0	16	3	180	45	7	45		365	
	Lot I - Chakdara and DI Khan G/S and assoc T/L	19-May-15	11-Jun-15	28-Jun-15	30-Jun-15	27-Jul-15	02-Nov-15	16-Feb-16	15-Nov-16	29-Nov-16	13-Dec-16	02-Jan-17	02-Jan-17	18-Jan-17	21-Jan-17	28-Oct-16	07-Mar-17	14-Mar-17	28-Apr-17		05-Aug-18	
	Lot II - Nowshera and Lalian G/S and assoc T/L	19-May-15	11-Jun-15	28-Jun-15	30-Jun-15	27-Jul-15	02-Nov-15	19-Feb-16	15-Nov-16	29-Nov-16	13-Dec-16	02-Jan-17	02-Jan-17	18-Jan-17	21-Jan-17	28-Oct-16	07-Mar-17	14-Mar-17	28-Apr-17		05-Aug-18	
	Lot III - Guddu Muzaffargarh Multan DG Khan G/S and assoc T/L	19-May-15	11-Jun-15	28-Jun-15	30-Jun-15	27-Jul-15	02-Nov-15	19-Feb-16	15-Nov-16	29-Nov-16	13-Dec-16	02-Jan-17	02-Jan-17	18-Jan-17	21-Jan-17	28-Oct-16	07-Mar-17	14-Mar-17	28-Apr-17		05-Aug-18	
	Lot IV - Neelum Jehlum Rawat Nokhar G/S and assoc T/L	19-May-15	11-Jun-15	28-Jun-15	30-Jun-15	27-Jul-15	02-Nov-15	19-Feb-16	15-Nov-16	29-Nov-16	13-Dec-16	02-Jan-17	02-Jan-17	18-Jan-17	21-Jan-17	28-Oct-16	07-Mar-17	14-Mar-17	28-Apr-17		05-Aug-18	

REVISED ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS

A. After Cancelling Contract Packages ADB-74, ADB-75, and ADB-80 - \$63.3 million

Category		Amount Allocated for ADB Financing (\$)		Basis for Withdrawal from the Loan Account
No.	Item	Current	Revised	
1A	Works (Civil Works)**	34,730,000	33,000,000	100% of total expenditure claimed*
1B	Works (Turnkey)**	21,000,000	0	
2	Equipment	152,540,000	147,240,000	
3	Interest & Commitment Charges	4,890,000	4,890,000	100% of amounts due*
4	Unallocated	34,740,000	30,840,000	
Total		248,000,000	184,700,000	

* Exclusive of taxes and duties imposed within the territory of the Borrower.

** Subject to the condition for withdrawal described in paragraph 7 of Schedule 3.

B. After Cancelling \$61 million

Category		Amount Allocated for ADB Financing (\$)			Basis for Withdrawal from the Loan Account
No.	Item	Original	After First Cancellation	After Second Cancellation	
1A	Works (Civil Works)**	34,730,000	33,000,000	33,000,000	100% of total expenditure claimed*
1B	Works (Turnkey)**	21,000,000	6,000,000	6,000,000	
2	Equipment	152,540,000	109,970,000	74,500,000	
3	Interest & Commitment Charges	4,890,000	4,890,000	4,890,000	100% of amounts due*
4	Unallocated	34,740,000	30,840,000	5,310,000	
Total		248,000,000	184,700,000	123,700,000	

C. After Extending MFF Utilization Period and Approving ADB's Administration of Cofinancing for Expenditures Incurred from 2017

Category		Amount Allocated for AFD Financing (EUR)	Basis for Withdrawal from the Loan Account
No.	Item		
1	Works (Civil Works)	45,000,000	100% of total expenditure claimed*
2	Equipment	25,500,000	
3	Unallocated	4,500,000	
Total		75,000,000	

AFD = Agence Française de Développement

* Exclusive of taxes and duties imposed within the territory of the Borrower.

REVISED INVESTMENT AND FINANCING PLAN AFTER EXTENDING MFF UTILIZATION PERIOD, AND APPROVING ADB'S ADMINISTRATION OF COFINANCING

Item	Total	Current Amount ^a		With AFD Financing ^b		
		NTDC	ADB ^c	NTDC	ADB ^d	AFD ^e
A. Investment Costs^e						
1. Equipment	109.00	34.50	74.50	12.00	47.50	49.50
2. Civil Works	39.00	0.00	39.00	9.00	2.00	28.00
3. Environment and Social Mitigation	0.11	0.11	0.00	0.11	0.00	0.00
4. Land Acquisition and Resettlement Plan	1.97	1.97	0.00	1.97	0.00	0.00
5. Project Management	17.31	17.31	0.00	17.31	0.00	0.00
6. Taxes and Duties	41.40	41.40	0.00	41.40	0.00	0.00
Subtotal (A)	208.79	95.29	113.50	81.79	49.50	77.50
B. Contingencies^f	9.69	4.38	5.31	4.69	0.00	5.00
C. Financing Charges During Implementation^g	27.02	22.13	4.89	26.52	0.50	0.00
Total (A+B+C)	245.50	121.80	123.70	113.00	50.00	82.50
Financing Percentage	100.0%	49.6%	50.4%	46.0%	20.4%	33.6%

ADB = Asian Development Bank, AFD = Agence Française de Développement, NTDC = National Transmission and Despatch Company

^a As of 14 October 2016, includes taxes and duties of \$41.4 million to be financed from NTDC.

^b Includes taxes and duties of \$41.4 million to be financed from NTDC.

^c Net of taxes and duties, which will be financed from NTDC.

^d Expected maximum disbursement within current MFF availability period. Unutilized loan balance will be cancelled during financial closing. Net of taxes and duties, which will be financed from NTDC.

^e Euro 75 million converted to US Dollar equivalent. Net of taxes and duties, which will be financed from NTDC.

^f Physical contingencies were re-estimated based on awarded contracts and actual bids.

^g End-2014 estimate, includes interest and commitment charges. Interest during construction for ADB loan was computed at the 5-year forward London interbank offered rate plus a spread of 0.50%. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.