



Loan Nos. 2289 and 2290
January 2008

Multitranche Financing Facility
Pakistan: Power Transmission Enhancement
Investment Program

Annual Report

Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
FFA	–	framework financing agreement
GENCO	–	generation company
ID	–	identification
kV	–	kilovolt
LARF	–	land acquisition and resettlement framework
MFF	–	multitranche financing facility
NTDC	–	National Transmission and Despatch Company
OCR	–	ordinary capital resources
PMU	–	project management unit

NOTE

- (i) In this report, "\$" refers to US dollars.

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I. SUMMARY

1. Tranche-1 of a multitranche financing facility (MFF) between the Asian Development Bank (ADB) and the National Transmission and Dispatch Company (NTDC) for the Power Transmission Enhancement Investment Program (the Program) comprises Loan 2289-PAK for \$226 million and Loan 2290-PAK for \$10 million. Loan 2289-PAK supports investment in new transmission assets. Loan 2290-PAK supports the preparation and monitoring of financing tranches and capacity strengthening of NTDC. The investment project comprises 19 subprojects covering new substations and additions to existing substations, the installation of compensation equipment, and a new overhead line. Planned completion dates are staggered from mid-2007 to mid-2009.

2. Progress is found to be generally satisfactory. 15 contract awards have been made by the end of 2007 representing a total value of \$72 million. This is a significant procurement achievement. NTDC has undertaken to strengthen its project management unit following some program slippage in early subprojects. A follow-up mission will take place in the first quarter of 2008 to review implementation of proposed project management remedial measures.

3. A periodic financing request for Tranche-2 of the MFF was received on 8 October 2007. After conducting due diligence, ADB received permission from the President to conduct loan negotiations on 6 December 2007. The President subsequently approved Loan 2396-PAK for \$220 million on 17 December 2007.

II. BACKGROUND

A. MFF Key Data

4. A framework financing agreement (FFA) entered into by NTDC and ADB on 3 November 2006 describes ADB's intention to provide financial support through an MFF for the rehabilitation and expansion of NTDC's transmission system. Four financing tranches totaling up to \$800 million are envisaged over the agreement's 10 years.

5. Tranche-1 of the MFF comprises Loan 2289-PAK and Loan 2290-PAK. Loan 2289-PAK, for \$226 million from ADB's ordinary capital resources (OCR), supports investment in new transmission assets. Loan 2290-PAK, for \$10 million from ADB's Asian Development Fund (ADF) facility, supports capacity strengthening in NTDC. The loans were signed on 16 January 2007 and became effective on 11 May 2007.

6. Tranche-2 of the MFF comprises Loan 2396-PAK for \$220 million from ADB's OCR and supports investment in new transmission assets. The President approved the loan on 17 December 2007, with contract signing scheduled for January 2008.

7. This is the first annual report on the program MFF. It is based on two progress reports submitted by NTDC, a mission conducted during 2007, and a project review mission on Tranche-1 conducted on 21–22 November 2007.

B. Impact and Outcome

8. The Program is closely linked to Pakistan's long-term power sector strategy and is an integral part of the power transmission development program. The Program will enhance the efficiency of the overall power transmission system and provide adequate and reliable

transmission of power supply to a greater number of industrial, commercial, and residential consumers. The power sector is a critical infrastructure area for economic growth and development, and the investment program will be a vital way of supporting power sector development and economic development in Pakistan.

C. Outputs and Components

9. The subprojects under the Program will improve power transmission infrastructure through the rehabilitation, augmentation, and expansion of the primary (above 220 kilovolt [kV]) transmission network and relieve transmission bottlenecks in the power system. Specifically, (i) NTDC will adhere to its transmission license conditions and comply with the grid security code, (ii) about 10.5 gigawatt-hours of additional power will be supplied through the national grid annually, (iii) the system will be capable of meeting peak demand, with electricity outages significantly reduced by 30% in 2011, and (iv) grid-connected customers will increased to 70% of the population in 2011.

10. The Program has two components. First, it will finance subprojects that are part of NTDC's investment plan. Second, it will finance a program support component.

D. Cost Estimates and Financing Plan

11. The total cost of NTDC's 2006-2016 investment plan is \$3.9 billion equivalent to be financed 20% by ADB, 30% by NTDC and 50% by other financiers.

12. The total cost of Tranche-1 is \$292 million of which \$282 million is for financing of the subprojects and \$10 million is for program support. ADB agreed to finance 80% of the subprojects and 100% of the program support. NTDC will finance the remaining 20% of the subprojects. Detailed cost estimates of Tranche-1 are given in Appendix 1.

13. The total cost of Tranche-2 is \$276 million. ADB has agreed to finance 80% of this amount while NTDC will finance the remaining 20%. Detailed cost estimates of Tranche-2 are given in Appendix 2.

E. Investment Program (Tranche-1)

14. Loan 2289-PAK covers the addition of 5,965 megavolt-amperes of new transformation capacity. The Program is broken into 19 subprojects:

- (i) three new 220 kV transformer and switching substations,
- (ii) transformer additions in five existing 500 kV and nine existing 220 kV substations,
- (iii) the installation of static var compensation equipment, and
- (iv) 50 kilometers of 220 kV overhead line.

15. Completion dates are staggered from mid-2007 to mid-2009, with the total cost estimated at \$282 million. Appendix 1 presents a detailed breakdown of the Program.

F. Support Component (Tranche-1)

16. Loan 2290-PAK is designed to support (i) NTDC in the implementation of Tranche-1, (ii) the preparation of future tranches, and (iii) the strengthening of NTDC's organizational capacity. NTDC is required to identify and propose projects and recruit and administer consultants.

III. IMPLEMENTATION (TRANCHE-1)

A. Procurement Packages

17. Subprojects were to be executed through use of multiple contracts (14 subprojects) and turnkey contracts (5 subprojects) with the multi-contract approach being used for early subprojects. Based on competitive bids received during the procurement of equipment packages for multi-contract subprojects, NTDC revised the contract packaging such that a greater use of the multi-contract approach would be adopted, with resulting cost savings. 18 subprojects are now being executed using a multiple contract approach and one by turnkey approach.

B. Progress versus Program

18. A comparison of actual to planned progress shows the tranche approximately 6 months behind schedule. In the case of one subproject (Bandala) the delay is attributable to a site change, but generally the delays are due to advance procurement not proceeding before loan signing as had been envisaged and greater use than originally planned of multi-contract approach to project execution. Allowing for the delay in commencement of procurement activities and that the majority of contract awards have already been made, it is expected that the revised forecast completion dates should be met.

19. Of the 19 subprojects, five are on schedule, thirteen are 6 months late and one is 18 months late. The projected versus planned completion dates for each subproject is shown in Appendix 1.

C. Budget versus Actual

20. The loan allocation is broken down in Table 1.

Table 1: Loan Allocation

Item	%	ADB Loan (in \$ million)	ADB/NTDC Financing Split
Civil Works	4	9	80/20
Turnkey	43	98	80/20
Equipment	27	60	80/20
IDC	13	30	100/0
Contingency	13	29	to be decided
Total	100	226	

ADB=Asian Development Bank, IDC=interest during construction.
Source: ADB estimates.

21. During 2007, the main activity was the procurement of equipment for multi-contract subprojects. The value of contract awards for equipment at mid-December 2007 was \$72 million. This figure is based on contract and contract quantities. The rate variance from budget represents a 9% reduction. The quantity variance from budget is due to the revised contract packaging. If budget quantities were used, the value of contract awards would be \$60 million or 80% of total equipment originally to be procured.

D. Environmental and Social Safeguards

22. NTDC has established an environmental and social unit, termed the Environmental Cell, in accordance with loan conditions. The cell is staffed with two professionals and support staff and is responsible for ensuring compliance with safeguard requirements.

23. Of the 19 subprojects, 16 are extensions of existing facilities and categorized as environmental category C (unlikely to have adverse environmental impacts), and three are new projects deemed category B (could have some adverse environmental impacts). A framework for working in existing substations has been agreed with the Environmental Protection Agency. Initial environmental examinations for class B projects have been submitted to the agency for approval. Land acquisition and resettlement plans have been prepared and distributed for the Mardan overhead line and the Bandala substation at the new site. The other subprojects do not have affected persons.

24. The approach to safeguards is generally satisfactory. The Program is at an early stage with no site work yet commenced so safeguard oversight must be maintained as the implementation gets underway.

E. Compliance with Covenants

25. Article III of the Loan Agreement states that the borrower shall on-lend the loan proceeds to NTDC under terms satisfactory to ADB. ADB had previously advised that the proposed on-lending rate of 17% was not satisfactory as it imposed an unreasonable burden over the commercial rate on NTDC. NTDC confirmed that the Economic Coordination Committee had now approved new on-lending terms of 2% above the Karachi Interbank Offered Rate (KIBOR) at a meeting on 31 October 2007. KIBOR 6 month rate is currently 10%.

26. A detailed schedule of the status of loan covenants is attached as Appendix 3, with the main issue being the failure to establish an adequately staffed Project Management Unit (PMU) as discussed in the next section.

F. Program Management

27. In accordance with the FFA, NTDC is required to establish a PMU, which will manage the overall Program and run a program performance management system. There remains areas of project management that need to be further strengthened as follows:

- (i) Staffing of the PMU needs to be augmented for a program of such complexity.
- (ii) Progress reporting needs to be more regular and more information.
- (iii) Confidentiality during bid evaluation needs to be enforced as evidenced by information available to complainants.

28. NTDC has committed to address these issues. Specifically, a new PMU will be proposed in January 2008. Progress reporting will be significantly improved and bid confidentiality ensured.

G. Support Component

29. Progress had been slow in developing the overall proposal on NTDC's approach to utilizing the \$10 million available. NTDC has been requested to submit by the first quarter of 2008 a comprehensive plan covering its proposals for utilizing the loan. ADB has stressed to NTDC the need to appoint the safeguard monitoring consultant before site works commence on Tranche-1.

H. Contract Awards and Disbursements

30. Outcome for 2007 and projection for 2008 are presented in Table 2. Figures refer to ADB financing portion only. Low disbursement figures for 2007 were due to late submission to ADB of loan withdrawal applications. Appendix 4 lists the individual contract awards for 2007.

Table 2: Outcome and Projection for Contract Awards and Disbursements

		2007 Outcome		2008 Projection	
		Awards (\$ million)	Disbursements (\$ million)	Awards (\$ million)	Disbursements (\$ million)
Tranche-1	Loan 2289-PAK	58	0.2	110	92
	Loan 2290-PAK	0	0	2	2
Tranche-2	Loan 2396-PAK	Not applicable	Not applicable	70	20

Source: ADB estimates.

IV. CONCLUSION AND COMMENT

A. General Status

31. Implementation was found to be generally satisfactory. Significant progress has been achieved in the procurement of equipment, with 15 contracts awarded with a total contract value of \$72 million (\$58 million from ADB financing).

B. Areas for Improvement

32. NTDC concurred with ADB recommendations to strengthen project management and monitor subproject progress on more frequent basis. NTDC also undertook to pay closer attention to ADB loan administration procedures and to improve bidder confidentiality during the tender evaluation process.

C. Follow-Up Actions

33. NTDC has undertaken to submit a new organization proposal in January 2007. NTDC has also undertaken to implement the other remedial measures requested. During the Inception Mission of Tranche-2, to be carried out in the first quarter of 2008, ADB will follow up on the implementation of remedial measures for Tranche-1.

PROJECT DESCRIPTION WITH COST ESTIMATES (TRANCHE-1)

Subproject Number	Project Description	Voltage (kV)	Substation Name	# of units	Unit Rating (MVA)	Total MVA	Length (km)	Planned completion	Projected completion	Delay in Months	Cost Estimate (\$ million)
1	Transformer Extension	500	Tarbela	1	237	237		1/7/08	1/1/09	6	13.05
2	Transformer Extension	500	Lahore	1	600	600		1/7/08	1/7/08	0	13.21
3	Transformer Extension	500	Gatti	1	450	450		1/7/08	1/7/08	0	12.20
4	Transformer Extension	500	Pershawar	1	450	450		1/7/08	1/1/09	6	14.41
5	Transformer Extension	500	Muzaffargarh	1	600	600		1/7/08	1/1/09	6	14.41
6	Transformer Extension	220	Mangla	1	138	138		1/7/08	1/1/09	6	5.16
7	Transformer Extension	220	Bannu	1	160	160		1/7/08	1/1/09	6	4.75
8	Transformer Extension	220	Multan	3	160	480		1/7/08	1/1/09	6	13.87
9	Transformer Extension	220	Yousafwala	1	160	160		1/7/08	1/1/09	6	4.75
10	Transformer Extension	220	Bahawalpur	1	160	160		1/7/08	1/1/09	6	4.75
11	Transformer Extension	220	Ludewala	1	160	160		1/7/08	1/1/09	6	4.75
12	Transformer Extension	220	Hyderabad	1	160	160		1/7/08	1/1/09	6	4.75
13	Transformer Extension	220	Islamabad	2	250	500		1/7/08	1/1/09	6	7.18
14	Transformer Extension	220	Gakhar	1	160	160		1/7/08	1/7/08	0	4.43
15	Line bay extension and new overhead line	220	Mardan			0	30	1/7/07	1/1/09	18	7.42
16	New substation	220	New Kot Lakhpat	3	250	750		1/7/08	1/7/08	0	10.78
17	Line bay extension and new overhead line	220	Bandala	2	160	320	10	1/7/09	1/1/10	6	33.65
18	Static var compensation equipment	220	Lahore			0		1/7/09	1/1/10	6	33.96
19	New substation and overhead	220	Wapda Town	3	160	480	10	1/7/09	1/7/09	0	36.77
											244.25
	Price Contingency										6.31
	Tranche Contingency										31.00
	Total			25		5,965	50				281.56

km=kilometer, kV=kilovolt, MVA=megavolt ampere.

Source: ADB estimates.

PROJECT DESCRIPTION WITH COST ESTIMATES (TRANCHE-2)

Subproject Number	Project Description	Voltage (kV)	Substation Name	No of Units	Unit Rating (MVA)	Total MVA	Length (km)	Planned Completion	Procurement (all OHL portions by multi-contract)	Cost Estimate (\$ million)
1	Substation and overhead line	220	Okara	2	250	500	10.08	1/6/11	Turnkey	23
2	Substation and overhead line	220	Toba Tek Sing	3	250	750	1.2	1/6/11	Turnkey	21
3	Static var compensation equipment	220	Quetta					1/6/11	Turnkey	27
4	Transformer extension	500	Ghazi Brotha	1	600	600		1/6/11	Multi-Contract	19
5	Substation and overhead line	500	D.G. Khan	1	600	600	21.4	1/6/11	Turnkey	51
6	Substation	220	Lora Lai	2	250	500		1/6/11	Turnkey	15
7	Substation and overhead line	220	Rohri	3	250	750	145.7	1/6/11	Turnkey	55
8	Overhead line and substation extension	132				0	63.8	1/6/11	Multi-Contract	7
9	Transformer augmentation	220	Ravi	3	250	750		1/6/10	Multi-Contract	10
10	Tools and equipment							1/6/10	Turnkey	8
	Physical Contingency									12
	Price Contingency									12
	IDC									15
	Committment Charges									2
	Total			15		4,450	242.18			276

IDC=interest during construction, km=kilometer, kV=kilovolt, MVA=megavolt ampere.

Source: ADB estimates.

COMPLIANCE WITH LOAN COVENANTS (TRANCHE-1)

Summary of Major Loan Covenants

	Covenants	Responsible Agency	Status
1	Policy Dialogue. The Government will ensure that ADB is kept informed about the Government's policies and programs related to the power sector that will materially affect the financial viability of each subproject under the Investment Program, and in particular the power generation policies and program, as well as the power transmission policies and program.	MOWP	Compliant
2	Corporate Governance. The Government will ensure that no person serving on the board of NTDC, WAPDA, a DISCO, or GENCO concurrently is a board member of any of the other entities, to avoid any actual or apparent conflict of interest.	NTDC, WAPDA	Measures taken but NTDC unable to confirm full compliance. Will address in next progress report.
3	Tariff. NTDC will submit a petition for tariff revision as required to maintain its financial viability. Following tariff determination by NEPRA, the Government will undertake to notify such tariff determination in a prompt manner. The Government will ensure that the tariff formulated for NTDC is adequate to cover its operating costs, maintenance, depreciation, and financing cost and to allow an acceptable return on the equity of NTDC.	NTDC	Compliant
4	Counterpart funding. The Government will ensure, and cause NTDC to ensure, the availability and timely release of counterpart funding for the timely implementation of subprojects financed under the Investment Program.	NTDC/MOF	Compliant
5	Establishment of CPPA. The Government, through MOWP, and NTDC will ensure that the CPPA is established as an entity that is independent from NTDC and that all of the trade debt incurred by NTDC for its single buyer role is transferred to CPPA or otherwise separated from NTDC. The Government, through MOWP, will cause CPPA to define its corporate identity, devise a business plan and a strategic development road map to have a single corporate body accountable for the single buyer business. NTDC will ensure it submits to NEPRA an application to revise its license to reflect the establishment of CPPA as a separate entity from NTDC.	MOWP/CPPA	Establishment of CPPA ongoing

	Covenants	Responsible Agency	Status
6	Financial Performance. The Government will ensure that NTDC will maintain a debt service coverage ratio of at least 1.2 from 2010 onward and a self-financing ratio of at least 20% from 2008 onward.	NTDC	Not applicable.
7	Financial Autonomy. The Government will ensure that NTDC bills the paying authority directly and in a timely manner for the transmission services rendered to its customers. The Government will ensure that the paying authority provides prompt payment to NTDC, and in case of any shortfall from the paying authority, Government will finance such shortfall in a timely manner.	NTDC/DISCOs/MOF	NTDC unable to confirm full compliance. Will address in next progress report.
8	Auditing and Accounting. NTDC will ensure that proper accounts and records are maintained in a timely manner to adequately identify the use of tranche proceeds in such a manner and details as may be specified in each Loan Agreement and Project Agreement. Audited financial reports of NTDC will be submitted to ADB within 6 months of fiscal year end.	NTDC	Audited financial statements for year ended June 2006 handed over. Statements for June 2007 awaiting approval.
9	Financial Governance. NTDC will ensure that its internal controls are in accordance with the National Accounting Standards and an independent and autonomous internal audit department will be set up within NTDC.	NTDC	Independent internal audit department yet to be established.
10	Land Acquisition and Resettlement. NTDC will ensure that (i) all land and rights-of-way required by the subprojects are made available in a timely manner; (ii) the provisions of the resettlement plans are implemented promptly and efficiently according to its terms, all applicable laws and regulations of Pakistan, ADB's <i>Policy on Involuntary Resettlement</i> (1995), and the land acquisition and resettlement framework (LARF); (iii) the resettlement plans are updated based on the detailed design, prepared in full consultation with the affected persons and disclosed to them prior to submitting the resettlement plans to ADB; (iv) the commencement of civil work or a similar milestone will be subject to ADB's review and approval of the relevant resettlement plans; (v) the contractors' activities are in compliance with requirements of the resettlement plans, the LARF, applicable domestic laws, and ADB's <i>Policy on Involuntary Resettlement</i> ; (vi) an independent monitor acceptable to ADB is engaged to carry out monitoring and	NTDC	Appointment of Independent Monitoring Consultant outstanding

	Covenants	Responsible Agency	Status
	evaluation and report to ADB in accordance with the requirements of the resettlement plans.		
11	Indigenous Peoples. NTDC will ensure that all subprojects affecting ethnic minorities are constructed and operated in accordance with the requirements of ADB's <i>Policy on Indigenous Peoples</i> (1998) as specified in the Indigenous Peoples Development Framework agreed with ADB and the Indigenous Peoples Development Plans (or resettlement plans). NTDC shall ensure that the Ethnic Minorities Development Plans (or resettlement plans) are monitored and evaluated by an independent agency.	NTDC	No resettlement required or IP affected in Tranche-1.
12	Environment. NTDC will ensure that (i) the subprojects are constructed and operated in accordance with national and local environmental procedures and guidelines and with ADB's <i>Environment Policy</i> (2002); (ii) the subprojects are designed, constructed, and operated in accordance with the environment management plans (EMPs) as reflected in the initial environment examinations and the Environment Assessment Review Framework; (iii) the EMPs will be incorporated in bidding documents and civil work contracts and implemented; and (iv) environmental performance reports will be submitted to ADB twice annually during the construction period, including progress made on the mitigation measures, monitoring data, problems encountered, enforcement plan, and any violations.	NTDC	EMPs were not included in issued bidding documents for WAPDA Town. NTDC will raise this as a new scope requirement during negotiation with selected bidder. EMPs will be included in future bidding documents for Bandala and Mardan.
13	Gender. NTDC will follow the principles of the ADB's policy on gender and development during each subproject implementation, including taking all necessary actions to encourage women living in the subproject area to participate in planning and implementing subproject activities. NTDC will monitor the subproject effects on women during each subproject implementation, through, where relevant, gender disaggregated data collected pursuant to the monitoring and evaluation system referred to in the subproject performance monitoring system.	NTDC	NTDC have yet to employ a monitoring consultant. Meanwhile site activities have not yet commenced.
14	Sexually Transmitted Diseases. With the assistance of the relevant local authorities, NTDC will cause contractors to distribute information on the risks of sexually transmitted diseases to those employed	NTDC	Civil works and erection/testing/ commissioning contractors yet to be appointed

	Covenants	Responsible Agency	Status
	during each subproject construction.		
15	Women and Child Labor. NTDC will ensure that (i) there is no differential payment between men and women for work of equal value, and (ii) civil works contractors do not employ child labor in the construction and maintenance activities in accordance with the relevant laws and regulations of the Government.	NTDC	Requirements specified in Bidding Documents. Civil works and erection/testing/commissioning contractors yet to be appointed
16	Execution of Civil Works. NTDC will ensure that, subsequent to award of civil works contract under any subproject, no section or part thereof under the civil works contract will be handed over to the contractor unless the applicable provisions of the LARF and Resettlement Plans, including in particular the timely delivery of compensation to affected families, Indigenous Peoples Development Framework and Indigenous Peoples Development Plans, and the EARF/EMPs have been complied with. Any changes to the location, land alignment of facilitating roads, or environment impacts on account of detailed designs of related subprojects will be subject to prior approval by ADB or related agency in accordance with the subproject selection criteria and procedures included in the FFA.	NTDC	Compliant
17	Subproject Selection Criteria. The Government and NTDC shall ensure that all subprojects are selected in accordance with the agreed criteria set out in the FFA, which adhere to the relevant requirements of the power transmission investment plan and other applicable guidelines for subproject implementation. NTDC will monitor the implementation of subprojects through to their completion of each subproject.	NTDC	Strengthening of the PMU is required to ensure full monitoring of implementation of subprojects

ADB=Asian Development Bank, CPPA=Central Power Purchasing Agency, DISCO=distribution company, EARF=environmental assessment and resettlement framework, EMP=environment management plan, FFA=framework financing agreement, GENCO=generation company, IP=indigenous people, MOF=Ministry of Finance, MOWP=Ministry of Water and Power, NEPRA=National Electric Power Regulatory Authority, NTDC=National Transmission and Despatch Company, PMU=project management unit, WAPDA=Water and Power Development Authority.

Source: ADB estimates.

CONTRACT AWARDS FOR 2007

Contract Number	Contractor	ADB Financing^a (\$ thousand equivalent)
1	TBEA Shenyang Transformer Group	10,211
2	Xian Electric Engineering	13,389
3	China National Electric Wire & Cable	1,296
4	TBEA Shenyang Transformer Group	7,635
5	Jiangsu Huapeng Transformer Co. Ltd.	13,589
6	Newage Cables (Pvt) Ltd.	2,743
7	SA-RA Enerji Insaat	1,964
8	SA-RA Enerji Insaat	133
9	Laioning Suiming Int'l Trade Co.	896
10	Costruzioni Elettromeccaniche Spa	789
11	Northeast China International	176
12	ABB Power Technologies	1,707
13	ABB Power Technologies	572
14	Tyco Electronics Raychem	99
15	SUMEC Complete Equipment	186
16	Siemens Pakistan Engineering	1,644
17	Arteche DYH Electric Co. Ltd.	465
Total		57,493

^aADB financing represents 80% of contract value.

Source: ADB estimates.