

Project Administration Manual

Project Number: 45306-001
Loan Number: 3141
January 2015

Republic of Uzbekistan: Takhiatash Power Plant
Efficiency Improvement Project

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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.

State Joint Stock Company (SJSC) Uzbekenergo, the executing agency, 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 the executing agency 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 Agreements. Such agreements shall be reflected in the minutes of the Loan Negotiations. In the event of any discrepancy or contradiction between the PAM and the Loan Agreements, the provisions of the Loan Agreements shall prevail.

After ADB Board approval of the project's report and recommendations of the President 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
AFS	=	audited financial statements
CCGT	=	combined cycle gas turbine
DMF	=	design and monitoring framework
EA	=	executing agency
EIA	=	environmental impact assessment
EPC	=	engineering, procurement and construction
FS	=	financial statement
GDP	=	gross domestic product
GWh	=	gigawatt hour
GOU	=	Government of Uzbekistan
ICB	=	international competitive bidding
LIBOR	=	London interbank offered rate
MOF	=	Ministry of Finance
NAS	=	national accounting standards
NCB	=	national competitive bidding
O&M	=	operations and maintenance
OCR	=	ordinary capital resources
PAI	=	project administration instructions
PAM	=	project administration manual
PMU	=	project management unit
QCBS	=	quality- and cost-based selection
SBD	=	standard bidding documents
SPS	=	Safeguard Policy Statement
SPRSS	=	summary poverty reduction and social strategy
TPP	=	thermal power plant
TOR	=	terms of reference
UFRD	=	Uzbekistan Fund for Reconstruction and Development
UE	=	Uzbekenergo

I. PROJECT DESCRIPTION

1. The project, located in Takhiatash thermal power plant (TPP), will construct two units of combined cycle gas turbines (CCGT), decommission old and inefficient power generation units, improving energy efficiency and increasing power supply for Karakalpakstan and Khorezm regions. The project includes a capacity development component for corporate performance improvement, and a social development component that contributes to gender equality.¹

2. Uzbekistan is one of the fastest-growing economies in Central Asia, aspiring to become an upper middle-income country by 2020. The economy has sustained a high growth rate averaging over 8% (2007-2013). Generally, stable macroeconomic conditions and robust growth are set to continue as Uzbekistan aims to develop a highly developed and diversified industrial and exports base. In particular, the Karakalpakstan and Khorezm regions, inhabited by 3 million people and located in the western part of Uzbekistan, will continue to host major investment projects and play a major role in the key growth center. Reliable power supply is critical to support the industrial development in these regions. Indeed, these regions expect power demand growth at 3%, while the national average is expected to be 1.5% in the medium term.

3. Takhiatash TPP is the main source of power supply in the Karakalpakstan and Khorezm regions. The power consumption in these regions was 2,293 gigawatt-hour (GWh) in 2012 with maximum load of 466 megawatts (MW). By 2020, the power consumption is expected to exceed 3,620 GWh with maximum load of 620 MW. The existing 730 MW installed capacity at Takhiatash TPP comprises five gas-fired steam turbine power generation units. However, three units, totaling 310 MW, have passed their designed economic life, and have been operating with marked-derated capacity (130 MW), low thermal efficiency (23.7%), and limited plant availability (25%).² The other two units, totaling 420 MW, are 26 years old or less.³ However, their capacity is derated by 15%, the efficiency is low at 31%, and they are over-utilized without desirable regular maintenance to meet the power demand.

4. In order to ensure reliable power supply, the government and Uzbekenergo, the state-owned power utility, identified the project as a priority, and decided to (i) construct two units CCGT (230-280 MW each); (ii) decommission existing three power units (No.1–3); and (iii) maintain two power units (No.7–8) for backup. This modernization approach comprising construction of new energy efficient power plant, together with decommissioning old and inefficient power units, will be the first integrated modernization model and will pave the way to restructure the country's power sector which faces acute aging asset challenges.

A. Impact and Outcome

5. The project's impact will be improved reliable power supply. The outcome will be increased energy-efficient power supply for the Karakalpakstan and Khorezm regions. The project will generate more electricity with less gas, GHG emission, and water, thus contributing also to climate change mitigation and adaptation. Table 1 summarizes the expected project outcome.

¹ The Asian Development Bank (ADB) provided a project preparatory technical assistance. ADB. 2012. *Technical Assistance to the Republic of Uzbekistan for the Takhiatash Power Plant Efficiency Improvement Project*. Manila (TA 8142-UZB, for \$1.2 million, approved on 16 August 2012).

² Out of the three units, two units (No.1 and No.2) of 100 MW each were built in 1969 and another unit (No.3) of 110 MW in 1974.

³ The other two power units (No.7 and No.8), with the installed capacity of 210 MW each, were commissioned in 1987 and 1990, respectively.

Table 1: Summary of Expected Project Outcome

		Installed Capacity (MW)	Power Generation (GWh/yr)	Gas Usage (million m ³)	CO ₂ Emission (1000 tCO ₂ e)	Water Usage (million m ³)
(a)	Existing Units	730	2,700	1,150	2,100	450
(b)	Decommissioning	(310)	(700)	(320)	(600)	(190)
(c)	Backup	420	300	110	200	40
(d)	New Units	510	3,700	770	1,400	15
(c)+(d)	After Project	930	4,000	880	1,600	55
(c)+(d)-(a)	Net Change	200	1,300	(270)	(500)	(395)

CO₂ = carbon dioxide, GWh/yr = gigawatt hour per year, m³ = cubic meter, MW = megawatt, tCO₂e = ton carbon dioxide equivalent

Sources: Uzbekenergo and ADB estimates.

B. Outputs

6. **Energy efficient and clean energy.** The project will construct two units of CCGT with a designed capacity within the range of 230 MW to 280 MW each with at least 52% thermal efficiency at the existing Takhiatash TPP. Three existing units (No.1–3) will be decommissioned, and two existing units (No.7–8) will be maintained as backup power generation units, while underutilized structures (blocks 1 and 2) will be demolished and the land will be remediated. These physical components will be undertaken by a single turnkey contractor. Bidding documents will be prepared by the implementation consultant.

7. **Capacity development.** The project will develop Uzbekenergo's capacity to become a commercially bankable utility. Tariff methodology study and training will develop the skills required to improve the tariff determination model and ensure cost-recovery tariff setting. Corporate performance management capacity will be measured and managed by developing key performance indicators. Risk profile assessment study will help Uzbekenergo increase its access to financing. The terms of reference and capacity development roadmap was prepared by the project preparatory technical assistance (PPTA) consultant.

8. **Social development.** The project will build a community social service center adjacent to Takhiatash TPP.⁴ The community social service center will create employment opportunities and facilities including laundry services, contributing to improving the community's welfare and ensuring gender equality. The needs for the facilities in the community social service center were identified through a social survey undertaken by the PPTA consultant. The Takhiatash TPP will be responsible for the sustainable operation of the facilities.

⁴ The community social service center is called "prophylactorium and center of social services" in the Russian language. This center will be used by the employees of the TPP and residents of Takhiatash City, and include facilities for laundry regular health check-up procedures and physical exercise gym.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

Indicative Activities	2014 (Months)												2015		Responsibility
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
Advance Contracting Actions (main turnkey contract)	-	-	-	X	-	-	-	-	-	-	-	-			ADB-PMU
Retroactive Financing (consulting services)	-	-	-	X	-	-	-	-	-	-	-	-			EA
Loan negotiations	-	-	-	-	X	-	-	-	-	-	-	-			EA
ADB Board consideration	-	-	-	-	-	-	X	-	-	-	-	-			ADB
Loan signing	-	-	-	-	-	-	-	-	-	X	-	-			ADB-GoU
Government legal opinion provided	-	-	-	-	-	-	-	-	-	-	-	-	X		GoU
Government budget inclusion	X	-	-	-	-	-	-	-	-	-	-	-			GoU
Loan effectiveness	-	-	-	-	-	-	-	-	-	-	-	-		X	GoU-ADB

ADB = Asian Development Bank, PMU = Project Management Unit, EA = executing agency, GoU = Government of Uzbekistan.

B. Overall Project Implementation Plan

Indicative Activities	2014 (Qtr)				2015 (Qtr)				2016 (Qtr)				2017 (Qtr)				2018 (Qtr)				2019 (Qtr)				2020 (Qtr)			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
A. DMF																												
Output 1: Power Plant Component																												
Activity 1.1 Contractor selected										*																		
Activity 1.2 CCGT Unit 1 completed																	*											
Activity 1.3 CCGT Unit 2 completed																		*										
Activity 1.4 Decommissioning of units 1-2																									*			
Activity 1.5 Decommissioning of unit 3																										*		
Output 2: Capacity Development Component																												
Activity 2.1 Program manager consultant recruited					*																							
Activity 2.2 Tariff study and training starts							*																					
Activity 2.3 KPI development starts							*																					
Activity 2.4 Risk profile assessment starts													*															
Output 3: Social Development Component										*																		
Activity 3.1 Social and gender consultant recruited									*																			
Activity 3.2 Social service center construction starts									*																			
B. Management Activities																												
Key procurement activities																												
Consultant selection procedures																												
Environment management plan key activities																												
Communication strategy key activities			*	*			*																					
Midterm review (semi-annual meeting<->)							-	-		-	-		-	-		-	-		-	-		-	-		-	-		
Project completion report																												

CCGT = combined cycle gas turbine; EIA = environmental impact assessment; EPC = engineering, procurement, and construction; PPTA = project preparatory technical assistance; qtr = quarter.

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Stakeholders – Roles and Responsibilities

Project Stakeholders	Management Roles and Responsibilities
<ul style="list-style-type: none"> Ministry of Finance 	Borrower <ul style="list-style-type: none"> ➤ Ministry representing for external borrowing ➤ Electricity tariff setting
<ul style="list-style-type: none"> SJSC Uzbekenergo 	Executing Agency <ul style="list-style-type: none"> ➤ Power generation, transmission and distribution ➤ Funding balance of project cost
<ul style="list-style-type: none"> ADB 	Lender <ul style="list-style-type: none"> ➤ Main project financier
<ul style="list-style-type: none"> Uzbekistan Fund for Reconstruction and Development (UFRD) 	Local Financial Partner <ul style="list-style-type: none"> ➤ Government lending institutions partially taking counter-part funding role

B. Key Persons Involved in Implementation

Executing Agency

Agency Name

SJSC Uzbekenergo

Officer's Name: Mr. I. Basidov

Position: Chairman of the Board

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ADB

Division Director

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Mission Leader

Staff Name: Mr. Keiju Mitsuhashi

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C. Project Organization Structure

9. Uzbekenergo has established a dedicated full-time project management unit (PMU) responsible for management of the Takhiatash Power Plant Efficiency Improvement Project. The PMU will manage the procurement and consulting contracts on behalf of Uzbekenergo. It will be responsible for preparing project plans, bid evaluation reports, progress reports, withdrawal applications of funds, and any other required reports to ADB. The PMU will include the following positions:

Position		Name
PMU Project Manager	-	Nurilla Abdullaev
Project Accountant	-	Faridun Yusupov
Finance Specialist	-	Murod Valiev
Economist	-	Saidkhon Amilkhanov
Procurement Specialist	-	Saparboy Madkurbanov
Procurement Specialist	-	Akhmed Yakubov
Procurement Specialist	-	<u>vacant</u>
Power Plant Engineer (Mechanical)	-	Polat Kutlimurotov
Power Plant Engineer (Primary Electrical)	-	<u>vacant</u>
Power Plant Engineer (Secondary Electrical)	-	<u>vacant</u>
Power Plant Engineer (Control & Instrumentation)	-	Anzur Roishov
Civil Works Engineer	-	Yusup Madraimov
Social and Gender Specialist (focal in Takhiatash TPP)	-	<u>vacant</u> (Konus Yusupov)
Environmental Specialist	-	Shukhrat Akhmadov
Asbestos Specialist	-	<u>vacant</u>
Interpreters	-	Mekhri Valieva
Office Manager	-	<u>vacant</u>

10. The PMU's project manager will report directly to the Chairman of Uzbekenergo. The PMU will be the main point of contact for working communication between Uzbekenergo and ADB. The PMU will coordinate the consultants and contractors.

11. The PMU, assisted by the consultants, will submit the necessary project plans, tender evaluation reports, progress reports, applications for withdrawal of funds, and any other required reports to ADB.

12. The PMU's project manager and PMU staff will be required to have appropriate academic qualifications with experience of working on large investment projects. The director and the project manager will be senior power plant engineers with experience in construction and/or operations. The project accountant, financial specialist, power plant engineers, civil works engineer, social and gender specialist and environmental specialist will have relevant experience and academic qualifications in their specialty area. The procurement specialist will have required academic qualifications with experience in procurement of consultants and contractors.

13. The terms of reference of the PMU project manager and PMU staff are as follows:

Position	Terms of Reference
Project Manager	<ul style="list-style-type: none"> • Provide overall direction and management of PMU. • Ensure project is delivered on schedule to budget and specification • Manage relationships with financiers, consultants, and contractors • Ensure appropriate reporting to financiers • Ensure Chairman Uzbekenergo is appraised of project developments on ongoing basis

Position	Terms of Reference
	<ul style="list-style-type: none"> • Manage implementation consultants and contractors • Manage PMU staff
Project Accountant	<ul style="list-style-type: none"> • Maintain project financial statements • Manage disbursement related issues and the withdrawal applications • Prepare project financial reports • Manage external audit of project financial statements • Coordinate external audit for entity
Finance Specialist	<ul style="list-style-type: none"> • Assist Project Accountant in maintenance of project financial statements and preparation of project financial reports • Monitor cashflow movement and prepare trend analysis of key operating and financial ratios • Monitor loan covenants
Procurement Specialist (3 positions)	<ul style="list-style-type: none"> • Manage consultant recruitment • Manage the turnkey contract • Prepare Request for Proposals for consultant services • Prepare bid evaluation reports • Monitor compliance of consultants and contractors with contract requirements • Prepare overall project progress report • Prepare contract award and disbursement projections
Power Plant Engineer (Mechanical)	<ul style="list-style-type: none"> • Monitor consultants and contractors progress and delivery to contract • Review submission by consultants in area of specialty • Prepare progress reports
Power Plant Engineer (Primary Electrical)	<ul style="list-style-type: none"> • As above
Power Plant Engineer (Secondary Electrical)	<ul style="list-style-type: none"> • As above
Power Plant Engineer Control & Instrumentation	<ul style="list-style-type: none"> • As above
Civil Works Engineer	<ul style="list-style-type: none"> • As above
Social and Gender Specialist	<ul style="list-style-type: none"> • Ensure the implementation of the social and gender management program • Manage the implementation of the gender action plan • Update the progress on gender action plan • Monitor consultants and contractors progress and delivery to contract • Review submission by consultants in area of specialty • Update the LARP after completing detailed design, and if update would not be needed prepare justification • Undertake survey and consultations with affected people to update LARP • Implement LARP and ensure payment to affected people • Prepare LARP compliance report on full payment of compensation
Environmental Specialist	<ul style="list-style-type: none"> • Ensure the implementation of the environmental management plan including the corrective action plan on the existing facilities. • Prepare the semi-annual environmental reports. • Monitor consultants and contractors progress and delivery to contract • Review submission by consultants in area of specialty
Asbestos Specialist	<ul style="list-style-type: none"> • Prepare and update the asbestos management plan

Position	Terms of Reference
	<ul style="list-style-type: none"> • Ensure the implementation of the asbestos management plan • Monitor consultants and contractors progress and delivery to contract • Review submission by consultants in area of specialty

14. The capacity development component of the project will be led by the Deputy Chairman (Finance) of Uzbekenergo. A program manager will be appointed to implement the program of the Takhiatash project and coordinate with other capacity developments activities under ADB's Talimarjan Power Project, and other ADB-financed projects and other IFI-financed projects. The existing capacity development officer under the Talimarjan Power Project will assist and be responsible for the administrative activities of all capacity development programs undertaken by Uzbekenergo.

IV. COSTS AND FINANCING

15. The project costs consist of: (i) EPC contract for the power plant and ancillary facilities and decommissioning of existing power units, (ii) project supervision consulting services, (iii) capacity and social development, (iv) community social service center, (v) land acquisition, (vi) taxes and duties, (vii) recurrent costs, and (viii) financial charges. Uzbekenergo will separately finance the cost of PMU from outside the Project costs.

- (i) **EPC Contract:** This will be financed by ADB OCR loan proceeds and UFRD. UFRD is a local financial partner. The EPC contract will be financed by ADB and UFRD on a pro-rata basis determined by the ratio described in the loan agreement.
- (ii) **Project Supervision Consulting Services:** Supervision and project management consultant (a firm) will be recruited by Uzbekenergo to assist PMU in project management. This contract will be financed by ADB OCR loan proceeds.
- (iii) **Capacity and Social Development Component:** This component will be financed by ADB OCR loan proceeds.
- (iv) **Community Social Service Center:** Uzbekenergo will be responsible for financing this component.
- (v) **Land Acquisition and Resettlement:** This will be financed by Uzbekenergo.
- (vi) **Taxes and Duties:** Taxes and duties will be covered under government contribution as their share of the project cost.
- (vii) **Recurrent costs.** Recurrent costs of the PMU are to be financed by Uzbekenergo. The recurrent costs of PMU are listed in the table below.
- (viii) **Financial Charges:** Uzbekenergo will finance the financial charges including interest during construction and commitment charges without capitalizing them into respective loans.

Recurrent cost of Project Management Unit

	(\$ thousand)							
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total
	2014	2015	2016	2017	2018	2019	2020	Cost
A. Staff Costs								
PMU Project Manager	12	12	12	12	12	12	12	86
Accountant	6	6	11	11	11	6	6	57
Finance Specialist	5	5	10	10	10	5	5	51
Procurement Specialists	8	23	23	8	8	8	0	76
Mechanical Engineer	6	6	12	12	12	6	6	59
Power Plant Engineer (primary)	6	6	12	12	12	6	6	59
Power Plant Engineer (secondary)	5	5	10	10	10	5	5	52
Control and Instrumentation Engineer	5	5	10	10	10	5	5	52
Civil Works Engineer	6	6	12	12	12	6	6	59
Environmental Specialist	4	4	8	8	8	4	4	40
Asbestos Specialist	5	5	10	10	10	5	5	51
Social and Gender Specialist	5	5	10	10	10	5	5	51
Translators	11	11	21	21	21	11	11	106
Office Manager	3	3	5	5	5	3	3	26
Driver	3	3	7	7	7	3	3	35
Subtotal (A)	90	105	175	160	160	90	82	862
B. Other Costs								
Copier and Computers	5	5	5	5	5	0	0	25
Vehicle Maintenance	2	2	8	8	9	8	6	43
Office Consumables	1	1	1	1	1	1	1	7
Office Utilities	1	1	1	1	1	1	1	7
Travel Expenses	6	6	6	7	7	6	6	44
External translation services	2	2	2	2	2	1	1	12
Subtotal (B)	17	17	23	24	25	17	15	138
Total (A+B)	107	122	198	184	185	107	97	1,000

Source: Asian Development Bank estimates.

A. Cost Estimates by Expenditure Category

Item	(\$ million)		Total Cost	% of Total Base Cost
	Foreign Exchange	Local Currency		
A. Investment Costs^a				
1. Power Plant Construction	414.1	36.7	450.8	76.3%
2. Decommissioning Works	-	31.8	31.8	5.4%
3. Community Social Service Center ^b	-	3.5	3.5	0.6%
4. Land Acquisition and Resettlement	-	1.4	1.4	0.2%
5. Consultants	7.0	1.5	8.5	1.4%
a. Project Management and Supervision	4.80	1.2	6.0	1.0%
b. Capacity Development ^c	2.20	0.3	2.5	0.4%
Subtotal (A)	421.1	74.9	496.0	83.9%
B. Taxes and Duties^d	-	94.0	94.0	15.9%
C. Recurrent Costs^e	-	1.0	1.0	0.2%
Total Base Cost	421.1	169.9	591.0	100.0%
D. Contingencies^f				
1. Physical	42.8	7.6	50.4	8.5%
2. Price	24.2	4.3	28.5	4.8%
Subtotal (D)	67.0	11.9	78.9	13.3%
E. Financing Charges During Implementation^g				
1. Interest During Construction	27.6	-	27.6	4.7%
2. Commitment Charges	2.5	-	2.5	0.4%
Subtotal (E)	30.1	-	30.1	5.1%
Total (A+B+C+D+E)	518.2	181.8	700.0	118.4%

^a In mid-2013 prices; includes environmental and social mitigation costs

^b Includes the construction of community social service center

^c Includes capacity development, social development and external audit cost

^d Includes taxes and duties to be financed by the Government of Uzbekistan

^e Includes project management unit cost

^f Physical contingencies computed at 10% of the base cost. Price contingencies computed at 2.0% on foreign exchange and 10.3% on local currency; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^g Includes interest and commitment charges. Interest during construction for ADB loan(s) has been computed at the 5-year forward London interbank offered rate plus a spread of 0.50% and a maturity premium of 0.10%. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

B. Allocation and Withdrawal of Loan Proceeds

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS (OCR) Takhiatash Power Plant Efficiency Improvement Project			
CATEGORY			ADB FINANCING BASIS
Number	Item	Total Amount Allocated for ADB Financing \$ Category	Percentage of ADB Financing from the Loan Account
1	Turnkey contract **	249,400,000	51.7% of total expenditure claimed *
2	Consulting Services	8,500,000	100% of total expenditure claimed *
3	Unallocated	42,100,000	
4	Total	300,000,000	

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

** Subject to the execution and effectiveness of the loan agreement between UFRD and the eligible commercial bank and the related subsidiary loan agreement between such bank and Uzbekenergo.

C. Expenditure Accounts by Financier

Item	ADB (OCR)		UFRD		Uzbekenergo		GoU		Total Cost
	(\$ million)		(\$ million)		(\$ million)		(\$ million)		
	Amount	% of Cost	Amount	% of Cost	Amount	% of Cost	Amount	% of Cost	
A. Investment Costs									
1. Power Plant Construction	233.0	51.7%	217.8	48.3%	-	0.0%	-	0.0%	450.8
2. Decommissioning Works	16.4	51.7%	15.4	48.3%	-	0.0%	-	0.0%	31.8
3. Community Social Service Center	-	0.0%	-	0.0%	3.5	100.0%	-	0.0%	3.5
4. Land Acquisition and Resettlement	-	0.0%	-	0.0%	1.4	100.0%	-	0.0%	1.4
5. Consultants	8.5	100.0%	-	0.0%	-	0.0%	-	0.0%	8.5
a. Project Management and Supervision	6.0	100.0%	-	0.0%	-	0.0%	-	0.0%	6.0
b. Capacity Development	2.5	100.0%	-	0.0%	-	0.0%	-	0.0%	2.5
Subtotal (A)	257.9	52.0%	233.2	47.0%	4.9	1.0%	-	0.0%	496.0
B. Taxes and Duties	-	0.0%	-	0.0%	-	0.0%	94.0	100.0%	94.0
C. Recurrent Costs	-	0.0%	-	0.0%	1.0	100.0%	-	0.0%	1.0
D. Contingencies	42.1	53.3%	36.8	46.7%	-	0.0%	-	0.0%	78.9
E. Financing Charges During Implementation	-	0.0%	-	0.0%	30.1	100.0%	-	0.0%	30.1
Total (A+B+C+D+E)	300.0	42.9%	270.0	38.6%	36.0	5.1%	94.0	13.4%	700.0
% of Total Project Cost		42.9%		38.6%		5.1%		13.4%	100.0%

ADB = Asian Development Bank, OCR = ordinary capital resources, UFRD = Fund for Reconstruction and Development of the Republic of Uzbekistan, GoU = Government of the Republic of Uzbekistan

Source: Asian Development Bank estimates.

D. Expenditure Accounts by Outputs/Components

Item	(\$ million)						
	Total Cost	Energy efficient & clean energy Component 1 Amount	% of Cost Category	Capacity development Component 2 Amount	% of Cost Category	Social development Component 3 Amount	% of Cost Category
A. Investment Costs^a							
1. Power Plant Construction	450.8	450.8	100.0%	-	0.0%	-	0.0%
2. Decommissioning Works	31.8	31.8	100.0%	-	0.0%	-	0.0%
3. Community Social Service Center ^b	3.5	-	0.0%	-	0.0%	3.5	100.0%
4. Land Acquisition and Resettlement	1.4	1.4	100.0%	-	0.0%	-	0.0%
5. Consultants	8.5	6.0	70.6%	2.5	29.4%	-	0.0%
a. Project Management and Supervision	6.0	6.0	100.0%	-	0.0%	-	0.0%
b. Capacity Development ^c	2.5	-	0.0%	2.5	100.0%	-	0.0%
Subtotal (A)	496.0	490.0	98.8%	2.5	0.5%	3.5	0.7%
B. Taxes and Duties^d	94.0	93.5	99.5%	0.5	0.5%	-	0.0%
C. Recurrent Costs^e	1.0	1.0	100.0%	-	0.0%	-	0.0%
Total Base Cost	591.0	584.5	98.9%	3.0	0.5%	3.5	0.6%
D. Contingencies^f							
1. Physical	50.4	50.4	100.0%	-	0.0%	-	0.0%
2. Price	28.5	28.5	100.0%	-	0.0%	-	0.0%
Subtotal (D)	78.9	78.9	100.0%	-	0.0%	-	0.0%
E. Financing Charges During Implementation^g							
1. Interest During Construction	27.6	27.6	100.0%	-	0.0%	-	0.0%
2. Commitment Charges	2.5	2.5	100.0%	-	0.0%	-	0.0%
Subtotal (E)	30.1	30.1	100.0%	0.0	0.0%	-	0.0%
Total (A+B+C+D+E)	700.0	693.5	99.1%	3.0	0.4%	3.5	0.5%

^a In mid-2013 prices; includes environmental and social mitigation costs

^b Includes the construction of community social service center

^c Includes capacity development, social development and external audit cost

^d Includes taxes and duties to be financed by the Government of Uzbekistan

^e Includes project management unit cost

^f Physical contingencies computed at 10% of the base cost. Price contingencies computed at 2.0% on foreign exchange and 10.3% on local currency; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^g Includes interest and commitment charges. Interest during construction for ADB loan(s) has been computed at the 5-year forward London interbank offered rate plus a spread of 0.50% and a maturity premium of 0.10%. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

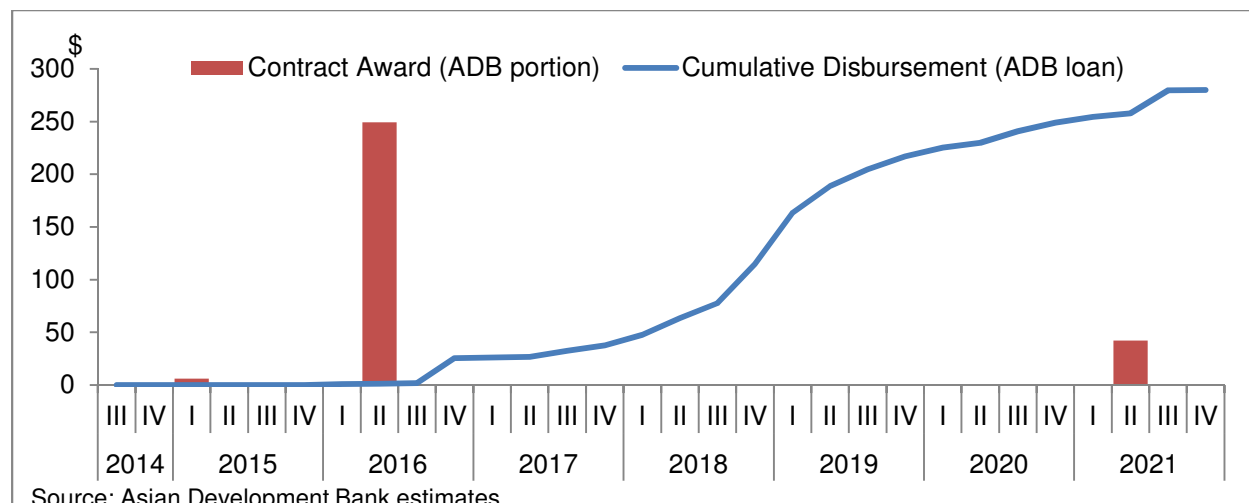
Source: Asian Development Bank estimates.

E. Expenditure Accounts by Year

Item	(\$ million)							
	Total Cost	Year 1 2014	Year 2 2015	Year 3 2016	Year 4 2017	Year 5 2018	Year 6 2019	Year 7 2020
A. Base Costs								
1. Power Plant Construction	450.8	-	-	45.1	67.6	225.4	67.6	45.1
2. Decommissioning Works	31.8	-	-	-	-	14.6	9.3	8.0
3. Community Social Service Center	3.5	-	-	-	1.2	1.2	0.7	0.5
4. Land Acquisition and Resettlement	1.4	-	-	-	0.5	0.5	0.3	0.2
5. Consultants	8.5	0.6	0.6	1.3	1.8	1.8	1.3	1.1
a. Project Management and Supervision	6.0	0.6	0.5	0.9	1.3	1.1	0.9	0.8
b. Capacity Development	2.5	-	0.1	0.4	0.6	0.8	0.4	0.3
Subtotal (A)	496.0	0.6	0.6	46.4	71.0	243.4	79.1	54.8
B. Taxes and Duties	94.0	-	0.0	8.2	14.1	47.0	15.3	9.4
C. Recurrent Costs	1.0	0.1	0.1	0.2	0.2	0.2	0.1	0.1
Total Base Cost	591.0	0.7	0.7	54.7	85.4	290.6	94.6	64.3
D. Contingencies	78.9	-	-	-	-	23.7	39.4	15.8
E. Financing Charges During Implementation	30.1	-	0.9	3.3	5.0	6.5	7.2	7.3
Total (A+B+C+D+E)	700.0	0.7	1.6	58.0	90.4	320.7	141.2	87.3
% of Total Project Cost	100%	0.1%	0.2%	8.3%	12.9%	45.8%	20.2%	12.5%

Source: Asian Development Bank estimates.

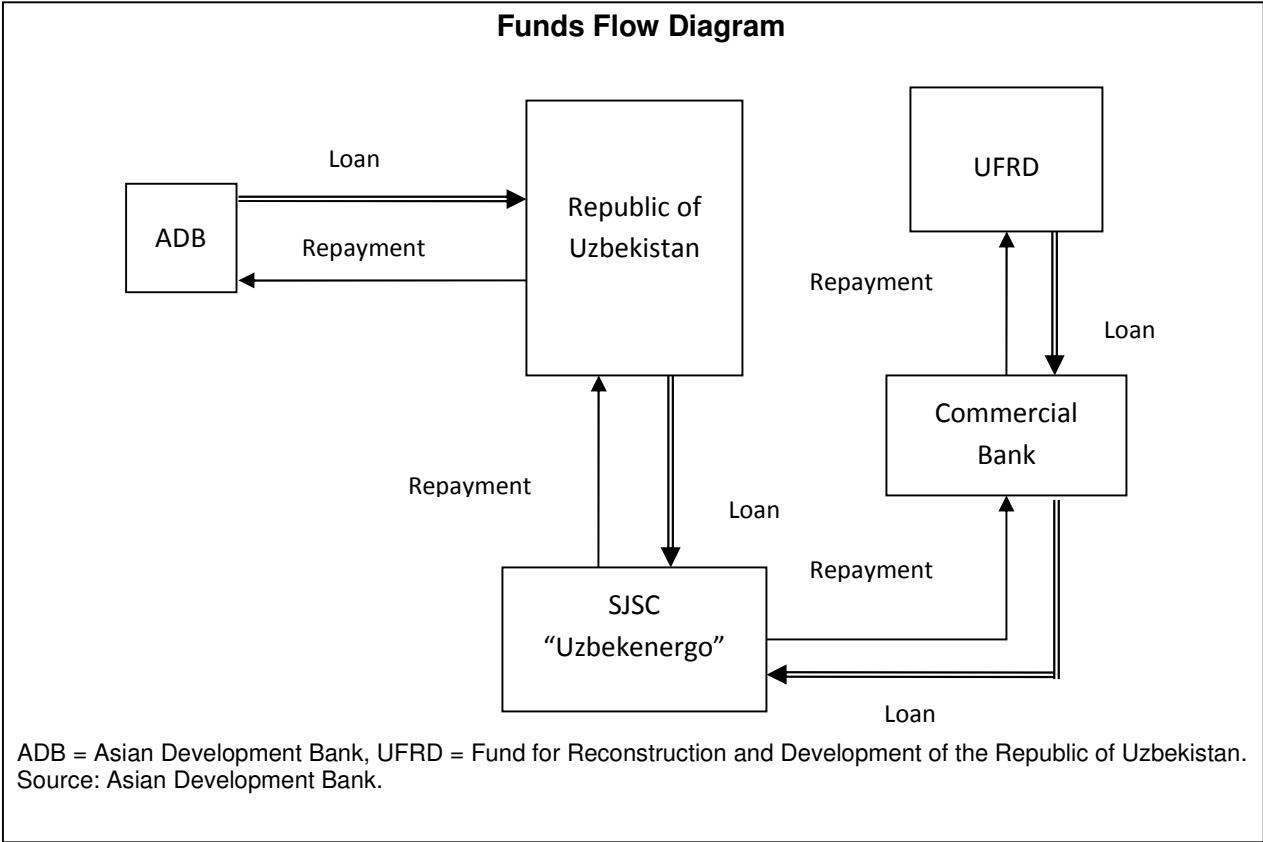
F. Contract and Disbursement S-curve



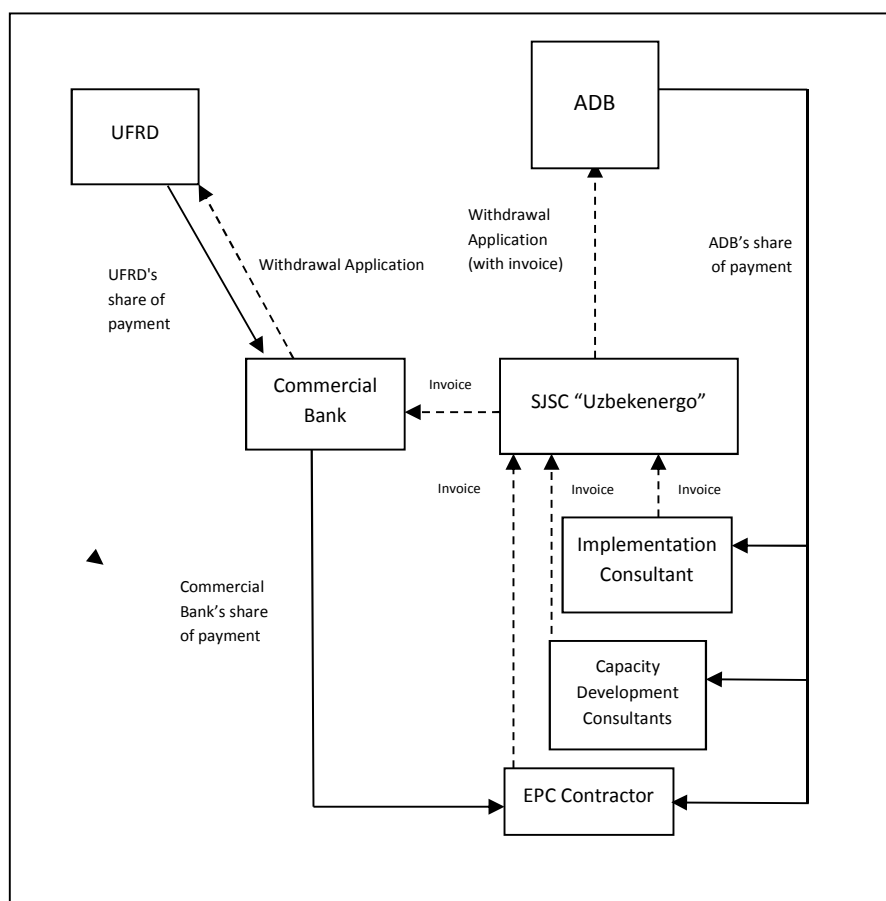
S-Curve Baseline Projections

	Contract Awards (in USD million)					Total Disbursements (in USD million)				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2014			-	-	-			-	-	-
2015	5.95	-	-	1.00	6.95	-	-	0.60	-	0.60
2016	-	249.40	0.20	-	249.60	0.30	0.40	0.40	23.80	24.90
2017	-	-	0.20	-	0.20	0.50	0.60	5.70	5.20	12.00
2018	0.40	-	0.50	-	0.90	10.10	15.90	14.20	37.10	77.30
2019	-	0.25	-	-	0.25	48.50	25.60	15.80	12.10	102.00
2020	-	-	-	-	-	8.40	4.70	10.80	8.20	32.10
2021	-	42.10	-	-	42.10	5.70	3.30	42.10		51.10

G. Fund Flow Diagram



H. Disbursement Mechanism



V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

16. The pre-mitigation risk level of Uzbekenergo is considered substantial given that its current financial management capacity requires further strengthening especially in the respect of qualified financial and accounting professional staff recruitment and retain, automation of accounts consolidation and management reporting process, and ability to become International Financial Reporting Standards (IFRS) compliant. Uzbekenergo needs to strengthen its financial management capacity.

17. Uzbekenergo's accounting policies, procedures, and financial reporting have followed the National Accounting Standards of Uzbekistan and National Standards on Auditing. However, in order to enhance its financial management, Uzbekenergo undertook an external audit based on International Standards on Auditing issued by the International Assurance Auditing Standards Board of its financial statements from the fiscal year ending 31 December 2011. The results indicate the need for further improvements, such as, in the classification methods and impairment provisions on account receivables, the scope of account consolidation, and the accounting system.

18. Uzbekenergo has started to adopt IFRS from the fiscal year ending 31 December 2012. The results indicate financial management risks including among others issues on reliability of financing reporting in the absence of full consolidation, the deteriorating cash flow position and the low collection rate/large receivables. The capacity development plan under other ADB loan projects will strengthen Uzbekenergo's information systems with the objective of improving its financial management capability.⁵ Uzbekenergo's financial management risk after mitigation is moderate.

Financial Management Risks and Mitigation Measures

Risk	Risk Assessment	Management Plan and/or Mitigation Measures	Risk after Mitigation
1. Inherent risks	High	The project management unit (PMU) to be supported by international consultants. Training on ADB procedures to be provided.	Moderate
2. Flow funds arrangements	Substantial	- ADB direct payment, commitment letters, and reimbursement procedures are to be used for the project. No imprest account will be established. - Relending agreement between the Ministry of Finance and Uzbekenergo to be submitted to ADB.	Low
3. Staffing	High	Uzbekenergo to be responsible for retaining adequate staffing and timely payment of salaries to staff. Recruitment and training of staff for international financing reporting standards (IFRS) to be implemented by Uzbekenergo with the help of international consultant.	Moderate
4. Accounting policies, procedures, and systems	Substantial	- An accounting system to be established and maintained for the project in order to minimize risk. - IT systems diagnosis and strategy development to be carried out by international consultant to identify the weaknesses and to design mitigation plan including upgrading accounting system and the introduction of an integrated management information system. - Recruitment of or internally trained IFRS accountants to introduce the adoption of IFRS. Documented procedures and staff training to be provided to retain institutional knowledge.	Moderate
5. Internal audit	Substantial	Adequate staffing in the newly established internal audit unit and sufficient training to be provided by Uzbekenergo through the help of international consultant.	Moderate
6. External audit	Substantial	Loan and project agreements require Uzbekenergo's financial statements and project financial statements be audited in accordance with international standards on auditing (ISA) by auditor acceptable to ADB. Uzbekenergo will submit to ADB the audited project financial statements within 6 months of the end of the fiscal year.	Moderate
7. Reporting and monitoring	High	- A reporting system, which will have functionality for automatic generation of financial reports to be established and maintained for the project. - Implementation consultants will be recruited to assist PMU in supervising the project implementation, recording project costs, preparing withdrawal applications and progress reports.	Moderate

⁵ ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Administration of Loan to the Republic of Uzbekistan for the Talimarjan Power Project*. Manila. (Loans 2629-UZB, 2630-UZB, and 8944-UZB).

Risk	Risk Assessment	Management Plan and/or Mitigation Measures	Risk after Mitigation
8. Information systems	High	Information systems and processes to be enhanced to meet the demands of organization, ensure operational stability, and allow for full consolidation of management information as well as financial data.	Moderate
Overall	High		Moderate

B. Disbursement

19. The Loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2012, as amended from time to time),⁶ and detailed arrangements agreed upon between the government and ADB.

20. The project primarily uses direct payment method and commitment letter procedure for the EPC contract. Each claim by the EPC contractor will be financed on a pro rata basis by respective financiers in accordance with the ratio determined in the loan agreements. For the consulting services, direct payment method and commitment letter procedure may be used. Reimbursement method may be used when necessary.⁷ The PMU, assisted by project implementation and supervision consultants, will prepare disbursement projections, collect supporting documents, and prepare and send withdrawal applications to ADB. The executing agency will ensure necessary budgetary allocations for counterpart funds.

21. Before the submission of the first withdrawal application, the borrower should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is US\$100,000, unless otherwise approved by ADB. The borrower is to consolidate claims to meet this limit for reimbursement. 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

22. The executing agency will cause PMU to maintain separate books and records by funding source for all expenditures incurred on the project. The PMU will prepare consolidated project financial statements in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices.⁸

D. Auditing and Public Disclosure

23. The executing agency will cause the detailed consolidated project financial statements to be audited in accordance with International Standards on Auditing and with the government's audit regulations, by an independent auditor acceptable to ADB. The audited financial statements (AFS) for the executing agency and audited project financial statements (AFPS) will be submitted in the English language to ADB within six months of the end of the fiscal year by the executing agency.

⁶ Available at: http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf

⁷ Available at: http://www.adb.org/documents/handbooks/loan_disbursement/chap-06.pdf

⁸ For details, see ADB (2013) Financial Management Technical Guidance Note: Project Financial Reporting and Auditing, Manila, available at: <http://www.adb.org/sites/default/files/project-financial-reporting-auditing.pdf>

24. The annual audit report will include an audit management letter and audit opinions which cover (i) whether the project financial statements present a true and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting framework; (ii) whether loan and grant proceeds were used only for the purposes of the project or not; and (iii) the level of compliance for each financial covenant contained in the legal agreements for the project.

25. 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 external auditor.

26. The government, executing agency and PMU have been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.⁹ ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the recipient, or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

27. Public disclosure of the project financial statements, including the audit report on the project financial statements, will be guided by ADB's Public Communications Policy (2011).¹⁰ After review, ADB will disclose the project financial statements for the project and the opinion of the auditors on the financial statements within 30 days of the date of their receipt by posting them on ADB's website. The Audit Management Letter will not be disclosed.

VI. PROCUREMENT AND CONSULTING SERVICES

A. Procurement of Goods, Works and Consulting Services

28. All procurement of goods and works will be undertaken in accordance with ADB's *Procurement Guidelines* (2013, as amended from time to time).

29. **EPC contract.** Uzbekenergo will employ a single EPC turnkey contractor to construct the CCGT units and decommission the existing units in Takhiatash TPP. The procurement will follow international competitive bidding procedures using ADB's two-stage bidding method without prequalification. ADB's standard bidding documents for *Plant: Design, Supply, Install* will be used.

⁹ ADB Policy on delayed submission of audited project financial statements:

- When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (i) the audit documents are overdue; and (ii) if they are not received within the next six months, requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.
- When audited project financial statements have not been received within 6 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. ADB will (i) inform the executing agency of ADB's actions; and (ii) advise that the loan may be suspended if the audit documents are not received within the next six months.
- When audited project financial statements have not been received within 12 months after the due date, ADB may suspend the loan.

¹⁰ <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

30. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages, is in Section B.

31. All consultants will be recruited according to ADB's Guidelines on the Use of Consultants.¹¹ Quality- and cost-based selection (QCBS) method will be the default method for recruiting consulting firms with a standard quality: cost ratio of 90:10 due to the complexity the technology adopted in the project, thus the importance of quality. Some of the consultants will be selected using consultant's qualification selection (CQS) and individual consultant system (ICS) because of the standardized nature of the assignments and the small size of the assignments. The terms of reference for all consulting services are detailed in Appendix.

32. **Project implementation and supervision consultant.** The executing agency will employ a project implementation and supervision consultant (an international engineering firm with experience in CCGT technology). This consultant will provide technical, financial and administrative support to the PMU during entire project implementation period. ADB OCR loan proceeds will cover the cost of the project implementation and supervision consultant.

33. **Capacity and social development.** The executing agency will employ few consultant firms and an individual consultant to assist Uzbekenergo in developing its capacity to become a commercially bankable utility. The activities will be financed through ADB's OCR loan proceeds.

B. Procurement Plan

a) Basic Data

Project Name: Takhiatash Power Plant Efficiency Improvement Project	
Country: Uzbekistan	Executing Agency: State Joint-Stock Company Uzbekenergo (UE)
Loan Amount: \$300 million	Project Number: 45360-001
Date of First Procurement Plan: 15 May 2014	Date of this Procurement Plan: 30 January 2015

34. The project envisages advance contracting and retroactive financing of up to 20% of total financing, as per the project concept paper approved by ADB Management. The borrower, and the executing agency have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the Project.

b) Method, Thresholds, Review and 18-Month Procurement Plan

1. ADB Prior or Post Review

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

¹¹ Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>

Procurement of Goods and Works

Method	Threshold	Comments
International Competitive Bidding (ICB) for Works	Above \$1 million	Prior review required
International Competitive Bidding for Goods	Above \$500,000	Prior review required
Government Procedure for Works	No threshold (allowed for any amount)	To be entirely financed by Uzbekenergo

Consulting Services

Method	Comments
Consultant's Qualification Selection for Consulting Firm	Prior review required
Quality- and Cost-Based Selection for Consulting Firm	Prior review required
Individual Consultants Selection for Individual Consultant	Prior review required

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

36. The following table lists goods and works contracts for which 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
PC-001	Construction of two combined cycle gas turbine units (230-280 MW each), demolition of blocks 1-2, and decommissioning of units No. 1-3	\$480 million	ICB	PRIOR	Two Stage	Q2 / 2015	Pre-qualification of Bidders: N Domestic Preference Applicable: N Bidding Document: Plant Comments: To be financed by ADB and UFRD

ADB = Asian Development Bank, ICB = international competitive bidding, MW = megawatt, PC = procurement contract, UFRD = Uzbekistan Fund for Reconstruction and Development.

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

37. The following table lists consulting services contracts for which procurement 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
CS-001	Project management and supervision consultant	6,000,000	QCBS	PRIOR	Q1 / 2013	FTP	Assignment: International Quality-Cost Ratio: 90:10 Comments: To be financed by ADB
CS-002	Capacity development program manager	570,000	ICS	PRIOR	Q1 / 2015		Assignment: International Expertise:

							Corporate management and capacity development
							Comments: To be financed by ADB
CS-003	Corporate management capacity development consultant	900,000	QCBS	PRIOR	Q1 / 2015	STP	Assignment: International Quality-Cost Ratio: 90:10 Comments: To be financed by ADB
CS-004	External audit (three multi-year contracts)	600,000	CQS	PRIOR	Q3 / 2015	STP	Assignment: International Comments: To be financed by ADB

ADB = Asian Development Bank, CS = consulting services, FTP = full technical proposal, ICS = individual consultant selection, QCBS = quality- and cost-based selection, STP = simplified technical proposal.

4. Consulting Services Contracts Estimated to Cost Less Than \$100,000

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

Consulting Services								
Package Number	General Description	Estimated Value	Number of Contracts	Recruitment Method	Review (Prior/Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
CS-005	Social and gender expert	30,000	1	ICS	PRIOR	Q1 / 2015		Assignment: National Expertise: social development and gender Comments: To be financed by ADB

ADB = Asian Development Bank, CS = consulting services, ICS = individual consultant selection.

5. ADB Review of Contract Modification

39. ADB will review contract modifications in accordance with the procedures set forth in the loan agreement between the borrower and ADB.

6. Indicative List of Packages Required Under the Project

40. 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							
Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Review (Prior/Post)	Bidding Procedure	Comments
None							

Consulting Services							
Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Review (Prior/Post)	Type of Proposal	Comments
CS-006	Risk profile assessment consultant	200,000	1	CQS	PRIOR	STP	Assignment: International Comments: To be financed by ADB

ADB = Asian Development Bank, CQS = consultant's qualification selection, CS = consulting services, STP = simplified technical proposal.

7. Non-ADB Financing

41. The following table lists goods, works and consulting services contracts over the life of the project, financed by Non-ADB sources.

Goods and Works				
General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Comments
Community social service facility	3,500,000	1	Government Procedure	To be entirely financed by Uzbekenergo

Consulting Services				
General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Comments
None				

VII. SAFEGUARDS

42. Pursuant to ADB's *Safeguard Policy Statement (2009) (SPS)*,¹² ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS. The government through the Takhiatash TPP will ensure that all safeguard requirements prescribed for project that have been prepared will be implemented. The project, in accordance with ADB *SPS (2009)*, was categorized as "A" for environment, as "B" for involuntary resettlement, and as "C" for indigenous peoples. Therefore, the following safeguard documents were prepared during project preparation:

- (i) The environmental impact assessment (EIA) report, including its environmental management plan (EMP), was prepared. The EIA report identified potential impacts related with the project and proposed mitigation measures and monitoring plan that presented in the EMP. The EIA report also includes the findings from environmental compliance audit report and recommended corrective actions for the existing facilities.
- (i) The land acquisition and resettlement plan (LARP) for expansion of the Takhiatash TPP.

¹² Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>

43. The government through Uzbekenergo and Takhiatash TPP is obliged to implement recommendation from these two safeguard reports that were prepared with adequate consultation with people living in surrounding project areas. The following paragraphs describe briefly the activities to be implemented during project implementation and operation.

A. Environment

44. Uzbekenergo and Takhiatash TPP will ensure that the design, construction, and operation and maintenance of the facilities under project are carried out in accordance with ADB's SPS (2009), applicable laws and regulations in Uzbekistan, and recommendation from IEE and its EMP. Uzbekenergo and Takhiatash TPP will ensure that potential adverse environmental impacts arising from the project are minimized by implementing all mitigation and monitoring measures as presented in the environment management plan (EMP) included in the EIA. Uzbekenergo and Takhiatash TPP will ensure that:

- (i) The PMU has sufficient resources to implement and record the implementation of the EMP prepared for the project.
- (ii) The Takhiatash TPP and PMU will recruit an asbestos specialist to prepare asbestos management plan to manage asbestos wastes and substances from all Takhiatash TPP operation. The PMU will ensure that the action plans to handle asbestos wastes and substances will be included in bidding document for construction of new facilities and/or dismantling old TPP facilities wherever relevant.
- (iii) The PMU and the Takhiatash TPP will undertake the measurement of the require baseline environmental data prior construction especially air quality, and ensure that the findings will be used in preparing detail design.
- (iv) If the detailed designed will be changed, the PMU will update the EMP and all necessary government's permits and license, including Ecological Expertise Opinion, to construct the expand Takhiatash TPP.
- (v) The terms of reference for supervision consultant/engineer will include necessary requirement to enable them to assist in implementing EIA and its EMP, as well as CAP based on environmental audit of existing facilities.
- (vi) The bidding documents for the main power plant turnkey contract include all safeguards requirement as described in the EIA and its EMP , and also CAP based on environmental audit of existing facilities.
- (vii) The winning bidder will have adequate resources to implement safeguards requirement.
- (viii) Detailed engineering designs, civil works and other activities for the project, where relevant, incorporate, through contracts, applicable environmental measures identified in the EIA and its EMP as well as CAP based on environmental audit of existing facilities.
- (ix) EMP is updated prior to implementation of civil works.
- (x) Starting from project commencement, the PMU will prepare annual environmental reports on implementation of EMP, and semi-annual environmental monitoring report after commencement of civil works. The report will include, among other things, a review of progress made on environmental measures detailed in the EIA and EMP, measures detailed in CAP and problems encountered or un-expected impacts encountered during implementation and remedial measures taken to address those problems.
- (xi) Civil works contractors are supervised and monitored to ensure compliance with the requirements of the EIA and its EMP, as well as CAP.

- (xii) If unexpected or unforeseen environmental impacts occurred, the environment specialist from PMU together with the supervision consultant, and contractor will promptly take corrective measures.
- (xiii) The environmental specialist of PMU will assist PMU to report in routine basis to ADB as part of the quarterly project report any complaint received and action to resolve the complaint.

B. Land Acquisition and Resettlement, and Indigenous Peoples

45. Uzbekenergo and Takhiatash TPP will ensure that land acquisition and resettlement plan (LARP) will be carried out in accordance with ADB's SPS (2009), and applicable laws and regulations in Uzbekistan. Uzbekenergo and Takhiatash TPP will ensure that LARP will be implemented, and monitored to ensure that no affected people will suffer from impacts associated with land acquisition. Uzbekenergo and Takhiatash TPP will ensure that:

- (i) The implementation of LARP as well as addressing other social concerns of the project shall be done by an appointed organic staff of UE in lieu of a PMU recruited social development specialist. .
- (ii) An updated LARP information following the detailed design shall be prepared. The updated information shall be carried out with adequate consultation with affected people. The updated information should at least indicate change in land acquisition, number of affected persons, and changes in the budget for LARP implementation.
- (iii) The updated LARP information has to be submitted to ADB to receive a concurrence prior to implementation.
- (iv) The updated LARP information will be disclosed to affected persons.
- (v) If the detailed design will not cause any change on land acquisition, the PMU has to provide ADB with written information that updated LARP is not required, and the existing LARP report will be implemented.
- (vi) The awarding of civil work contract will be done only after affected people receive full payment of compensation, and report on full payment of compensation needs to be submitted to ADB. The advance payment to the contractor only can be released by ADB after the report on full payment has been received by ADB.
- (vii) Report on monitoring the implementation of LARP including any grievance will be submitted to ADB on quarterly basis until the payment of compensations to affected parties has been fully paid.
- (viii) The social development specialist of PMU will also observe any unanticipated impacts due to land acquisition and take necessary measures in accordance to the provisions described in the LARP.

46. The project does not involve any territory, habitat, or common property that is managed by ethnic minority or indigenous people, and it is not expected to generate impacts to indigenous people as described in ADB's SPS (2009), because there is no such community living in surrounding project areas. Therefore, no arrangement was prepared to address indigenous people impacts as described in ADB's SPS (2009). However, during the entire project implementation, the social development specialist is obliged to observe any concerns related with this aspect.

C. Environmental Management Plan

PLEASE SEE THE ENVIRONMENTAL MANAGEMENT PLAN INCLUDED IN ENVIRONMENTAL IMPACT ASSESSMENT (accessible from the list of linked documents in Appendix 2 of the RRP)

VIII. GENDER AND SOCIAL DIMENSIONS

47. **Social and Gender.** Community and Gender Strategy Action Plan will be implemented by the PMU. Specific actions to mainstream gender issues into the project will include the following, budgeted at \$30,000 from ADB loan as consulting services, unless otherwise stated:

Gender Action Plan

Activity	Performance Indicators/Targets
Output 1: Energy efficient power generators operational in Takhiatash TPP	
The Gender Specialist at PMU, with the assistance of a Social and Gender Specialist, will undertake time-use survey and customer satisfaction survey at beginning and after project implementation to identify how much time is saved by women through freedom from drudgery by use of electrical appliances (i.e. washing machines, refrigerators).	At least 10% improvement from the benchmark level of satisfaction identified at the beginning of the project implementation. Time spent by women on laundry reduced by 40% for those utilizing the community social services center. (baseline for both from the initial time survey)
Project management unit (PMU) recruits a social and gender specialist/focal person by 2015. Responsibility includes: <ul style="list-style-type: none"> • monitor and evaluate, as well as collect sex-disaggregated data; • build gender awareness at the Takhiatash TPP, through targeted capacity development and training; and • develop and apply a gender-equal number resource management strategy at Uzbekenergo; promote gender-responsive corporate social responsibility. 	A social and gender specialist/focal point are designated in PMU. The GAP implementation progress matrix will be included in the project quarterly progress reports during project implementation.
Output 2: Enhanced Uzbekenergo's capacity to become commercially bankable	
Tariff analysis and training developed and delivered by 2017.	At least 20% of training participants are female employees of Uzbekenergo.
Key performance indicator developed and introduced by 2017.	Key performance indicator includes gender equality targets.
Output 3: Social Development: Community Social Service Center	
Community Social Service Center constructed and operational by 2018	At least 20 new jobs (50%) created in the community social service center are for women. Access to the improved health care services for Takhiatash Thermal Power Plant employees and community increased.
Dry-cleaning, laundry and carpet-cleaning facilities constructed and equipped by 2018	At least 20 new jobs (50%) of new jobs are for women. Percentage of women using washing machines increased from current 2% to at least 20%. Time spent by women on laundry reduced by 40% for those utilizing the community social services center. The community social center is open to the 50,000 people of Takhiatash. (baseline for both from the initial time survey but estimated at 10 hours per week)
Community outreach campaigns and trainings for youth are conducted	Eight Makhalla Advisors attended training of trainers (TOT) on (i) hygiene promotion, (ii) efficient energy use and (iii) gender and development (GAD) awareness. 1500 leaflets and distribution materials on hygiene, GAD basics and efficient energy use developed and distributed to eight Makhallas in the project area. Training modules on: (i) hygiene promotion, (ii) efficient energy use and (iii) GAD awareness developed. TOT conducted for the teachers in three colleges and nine schools conducted (at least 24 teachers trained). Regular trainings in three colleges and nine schools conducted for students with 50x50 boy and girls trainings participants.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>Impact More reliable power supply in Uzbekistan</p>	<p>By 2023: Total domestic power generated increased from 52 TWh (2010) to 65 TWh</p> <p>Total installed power generation capacity increased from 12,400 MW (2010) to 14,400 MW</p> <p>Total GHG emission intensity reduced from 4.53 kg CO₂e/dollar GDP (2009) to 3 kg CO₂e/dollar GDP</p>	<p>Uzbekenergo's annual performance report</p> <p>Uzbekenergo's annual performance report</p> <p>Key world energy statistics from the International Energy Agency</p>	<p>Assumptions Stable economic growth. Power demand grows by at least 1.5% per annum.</p> <p>Government continues to support power sector development and reform plans</p> <p>Electricity tariffs regularly adjusted to cover costs</p> <p>Risk Limited investments in energy-efficient technologies</p>
<p>Outcome Increased energy-efficient power supply in the Karakalpakstan and Khorezm regions</p>	<p>By 2020: Power generated from Takhiatash TPP increased from 2,700 GWh (2011) to 4,000 GWh</p> <p>Thermal efficiency of the new plant increased from 23.7% (2011) to 52%</p> <p>Takhiatash TPP GHG emission reduced from 2.1 mtCO₂e (2011) to 1.6 mtCO₂e</p> <p>Takhiatash TPP gas consumption decreased from 1,150 million m³ (2011) to 880 million m³</p> <p>Takhiatash TPP water consumption decreased from 450 million m³ (2011) to 55 million m³</p>	<p>Takhiatash TPP statistics</p> <p>Takhiatash TPP statistics</p> <p>Takhiatash TPP statistics</p> <p>Takhiatash TPP statistics</p> <p>Takhiatash TPP statistics</p>	<p>Assumptions Sufficient power evacuation capacity is available.</p> <p>Gas remains available for power generation.</p> <p>Sufficient water remains available for power generation.</p> <p>National investment plan for the energy sector executed without delay</p> <p>Power sector investment environment improves (regulatory and legislative framework and transparency)</p> <p>Risk Uzbekenergo power station staff are not experienced enough to operate CCGTs.</p>
<p>Outputs 1. Energy-efficient power generators operational in Takhiatash TPP</p>	<p>Two CCGT units with 230–280 MW each commissioned by 2018</p> <p>Existing three units (total 310 MW) decommissioned by 2020</p> <p>1.7 million m³ of hot water generated for the local community (including the community social service center)</p>	<p>Commissioning certificate by Uzbekenergo</p> <p>Decommissioning certificate by Uzbekenergo</p> <p>Takhiatash TPP statistics</p>	<p>Risks Delays in procurement and implementation of CCGT contract due to its technical complexity</p> <p>Cost overruns due to unforeseen circumstances in the international market</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks										
2. Developed Uzbekenergo's capacity to become commercially bankable	<p>Key performance indicator-based management introduced by 2017</p> <p>Tariff analysis and training completed for at least 30 staff (with at least 20% being women) by 2017</p> <p>Uzbekenergo's risk profile assessment completed by 2018</p>	<p>Uzbekenergo's annual performance reports</p> <p>Tariff analysis and training report by Uzbekenergo.</p> <p>Risk profile assessment report by Uzbekenergo.</p>	<p>Assumptions Uzbekenergo senior management and Ministry of Finance are committed to improving corporate performance.</p> <p>International financial reporting standards adopted for greater transparency</p>										
3. Community social service center becomes operational	<p>By 2018 Community social service center, equipped with dry-cleaning, laundry, and carpet-cleaning facilities, open to local community and TPP staff (50,000 people)</p> <p>At least 20 new jobs (50% of jobs created) in the community social service center are for women</p>	<p>Commissioning certificate by Uzbekenergo</p> <p>Takhiatash TPP statistics</p>											
<p>Activities with Milestones</p> <p>1. Power plant</p> <p>1.1. Contractor will be selected by June 2016</p> <p>1.2. CCGT unit 1 will be completed by Jul 2018</p> <p>1.3. CCGT unit 2 will be completed by Oct 2018</p> <p>1.4. Existing units 1–2 will be decommissioned by Jul 2020</p> <p>1.5. Existing unit 3 will be decommissioned by Oct 2020</p> <p>2. Capacity development</p> <p>2.1. Program manager consultant will be recruited by July 2015</p> <p>2.2. Tariff study and training starts by Oct 2015</p> <p>2.3. Development of key performance indicators starts by Oct 2015</p> <p>2.4. Risk profile assessment starts by Jun 2017</p> <p>3. Social development</p> <p>3.1. Social and gender consultant will be recruited by Mar 2015</p> <p>3.2. Community social service center construction starts by Jan 2015</p>		<p>Inputs</p> <p>Loan</p> <table> <tr> <td>ADB (OCR)</td> <td>\$300 million</td> </tr> <tr> <td>UFRD</td> <td>\$270 million</td> </tr> <tr> <td>Government</td> <td>\$94 million</td> </tr> <tr> <td>Uzbekenergo</td> <td><u>\$36 million</u></td> </tr> <tr> <td>Total:</td> <td>\$700 million</td> </tr> </table>		ADB (OCR)	\$300 million	UFRD	\$270 million	Government	\$94 million	Uzbekenergo	<u>\$36 million</u>	Total:	\$700 million
ADB (OCR)	\$300 million												
UFRD	\$270 million												
Government	\$94 million												
Uzbekenergo	<u>\$36 million</u>												
Total:	\$700 million												

ADB = Asian Development Bank, CCGT = combined cycle gas turbine, CO₂e = carbon dioxide equivalent, EIA = environmental impact assessment, GDP = gross domestic product, GHG = greenhouse gas, IEA = International Energy Agency, kg = kilogram, KPI = key performance indicator, m³ = cubic meter, GWh = gigawatt-hour, mtCO₂e = million ton carbon dioxide equivalent, MW = megawatt, OCR = ordinary capital resources, PPTA = project preparatory technical assistance, TPP = thermal power plant, TWh = terawatt hour, UFRD = Uzbekistan Fund for Reconstruction and Development.

Source: Asian Development Bank.

B. Monitoring

48. **Project performance monitoring.** Following indicators will be updated in the quarterly progress reports and at the time of semi-annual meetings and the midterm review expected in two years from the date of loan effectiveness.

- Installed generation capacity by power plants (MW)
- Installed transmission line by kV (km)
- Power supply by power plants and power consumption by region and type (GWh/year)
- System losses (commercial and technical, and transmission and distribution) (%)
- Power transformer capacity (MVA)
- Power tariff structure and level (sum/kWh)
- Power trade volume (GWh/year) and amount (\$ million) by country
- SJSC Uzbekenergo's annual report and financial statements (including balance sheet/cash-flow/income statement)

49. The following indicators will be updated in the quarterly progress reports and at the time of semi-annual meetings and the midterm review expected in two years from the date of loan effectiveness for Takhiatash TPP:

- Annual power generated (GWh)
- Annual gas consumption (m³) by unit
- Annual water consumption (m³) by unit
- Heat rate (kcal/kWh) for each unit
- Power output (MW) by each unit
- Forced outage (hour) for each unit
- Scheduled maintenance (hour) for each unit
- Availability and plant factor (%) for each unit
- CO₂ emission (tCO₂e)

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

51. **Safeguards monitoring.** The executing agency's quarterly progress reports, Environmental Management Plan (EMP), semi-annual environmental reports.

52. **Poverty and Social action plans.** Executing agency's quarterly progress reports, and through semi-annual project meeting and the midterm review.

C. Evaluation

53. Within 6 months of physical completion of the Project Uzbekenergo will submit a project completion report to ADB.¹³

D. Reporting

54. The executing agency will provide ADB with (i) quarterly progress reports, which include Environmental Management Plan, in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan and (d) updated implementation plan for next 12 months; and (iii) a project completion report within 6 months of physical completion of the project. To ensure projects continue to be both viable and sustainable, project financial statements and the executing agency AFSs, together with the associated auditor's report,

¹³ Project completion report format available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>.

should be adequately reviewed.

E. Stakeholder Communication Strategy

55. Project information will be strategically disseminated through media at main milestones including loan signing, EPC contract awards and project completion. A grievance redress mechanism will establish at the project site gate, by phone and email, and through public consultation events. In compliance with the minimum requirements of ADB's Public Communications Policy (2011), the Takhiatash TPP will designate an officer as focal point for regular contact with project-affected people and other stakeholders. The designated officer will be responsible for obtaining the information from the complainant to identify source of problem and verify the complaint. The PMU shall provide project performance updates on progress every six months.

ADB Public Communications Strategy

Project Documents [language]	Means of Communication	Responsible Party	Frequency	Audience(s)
Project Information Document (PID) [English/Russian]	ADB's website	ADB	initial PID no later than 30 calendar days of approval of the concept paper; quarterly afterwards	General Public
Design and Monitoring Framework (DMF) [English]	ADB's website	ADB	draft DMF after post fact-finding mission	General Public
Environmental Impact Assessment [English/Russian]	ADB's website	ADB	at least 120 days before Board consideration	General Public, project-affected people in particular
Resettlement Planning Documents [English/Russian]	ADB's website	ADB	before the Management review and approval	General Public, project-affected people in particular
Report and Recommendation of the President [English]	ADB's website	ADB	within 2 weeks of Board approval of the project	General Public
Legal Agreements [English]	ADB's website	ADB	within 2 weeks of Board approval of the project	General Public
Initial Poverty and Social Assessment [English]	ADB's website	ADB	within 2 weeks of Board approval of the project	General Public, project
Project Administration Manual [English]	ADB's website	ADB	within 2 weeks of Board approval of the project	General Public
Environmental Monitoring Reports [English]	ADB's website	ADB	Semi-annually during implementation	General Public, project-affected people in particular
Major Change to Project [English]	ADB's website	ADB	within 2 weeks of approval of the change	General Public
Completion Report [English]	ADB's website	ADB	within 2 weeks of circulation to the Board for information	General Public
Business opportunities, bidding process and guidelines, results of bidding process,	ADB's website Uzbekenergo's website	ADB Uzbekenergo	per project progress,	General Public

X. ANTICORRUPTION POLICY

56. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the Project.¹⁴ 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.¹⁵

57. To support these efforts, relevant provisions are included in the loan agreements/regulations and the bidding documents for the project. The project will follow ADB's Procurement Guidelines (2013, as amended from time to time), consultant selection will adopt ADB's Guidelines on the Use of Consultants (2013, as amended from time to time), and disbursement will be made in accordance with ADB's disbursement policies, guidelines, practices, and procedures.

XI. ACCOUNTABILITY MECHANISM

58. 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.¹⁶

XII. RECORD OF PAM CHANGES

15 May 2014: 1st version completed.

30 Jan 2015: 2nd version updated at Inception Mission 25-30 Jan 2015.

Date Updated	PAM Section	Change
30 Jan 2015	Cover page	Updated the loan number and PAM date
	Chapter II. Implementation plans A. Project Readiness Activities B. Overall Project Implementation Plan (Table 2)	Updated dates on submitted Legal Opinion and Loan effectiveness Adjusted implementation schedule
	Chapter III. Project Management Arrangements A. Project Stakeholders – Roles and Responsibilities	Updated the name of Director, Energy Division, Central and West Asia Department
	Chapter IV. Costs and Financing F. Contract Awards and Disbursement S-curve	Revised S-curve baseline projections
	Chapter VI. Procurement and Consulting Services B. Procurement Plan	Updated advertisement dates for consulting packages

¹⁴ Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

¹⁵ ADB's Integrity Office web site is available at: <http://www.adb.org/integrity/unit.asp>

¹⁶ For further information see: <http://compliance.adb.org/>

Date Updated	PAM Section	Change
	Chapter VII. Safeguards B. Land Acquisition and Resettlement, and Indigenous Peoples	Revised para 45 (i), (ii) and (iii)
	Outline Terms of Reference for Consulting Packages	Update the consultant's recruitment and engagement period