

Project Administration Manual

Project Number: 45306-001

Loan Numbers: {TBD}

May 2014

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, to be implemented in the Takhiatash thermal power plant (TPP), involves building two combined-cycle gas turbine (CCGT) units, decommissioning old and inefficient power generation units, improving energy efficiency, and increasing power supply to the Karakalpakstan and Khorezm regions. It includes a capacity development component to improve corporate performance and a social development component to foster 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 export base. In particular, the Karakalpakstan and Khorezm regions, inhabited by 3 million people and located in the western part of Uzbekistan, will continue to attract important investment projects. Reliable power supply is critical to support industrial development in these regions. Indeed, these regions expect power demand to grow at 3%, double the expected medium-term national average rate of 1.5%.

3. The Takhiatash TPP is the main source of power supply in the Karakalpakstan and Khorezm regions. In 2012, power consumption in these regions was 2,293 gigawatt-hours (GWh) 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. With 730 MW of installed capacity, the Takhiatash TPP now comprises five gas-fired steam turbine generation units. Three units totaling 310 MW have passed their designed economic life, and have been operating with 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 overutilized to meet demand, which prevents regular maintenance.

4. 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 CCGT units (230–280 MW each); (ii) decommission three existing power units (Nos. 1–3); and (iii) maintain two power units (Nos. 7–8) for backup operation. This approach—construction of energy-efficient units while decommissioning old and inefficient ones—will be the first integrated modernization model and will pave the way to restructuring a power sector that faces acute issues with aging assets.

A. Impact and Outcome

5. The project's impact will be more 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, lower GHG emission, and less water, thereby contributing to climate change mitigation and adaptation. Table 1 summarizes the expected project outcome.

¹ The Asian Development Bank (ADB) provided project preparatory technical assistance (TA): 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 Of the three units, two of 100 MW each (No. 1 and No. 2) were built in 1969; No. 3, of 110 MW, was built in 1974.

³ No. 7, commissioned in 1987, and No. 8, commissioned in 1990, have installed capacity of 210 MW each.

Table 1: Summary of Expected Project Outcome

		Installed Capacity (MW)	Power Generation (GWh/year)	Gas Usage (million m³)	CO₂ Emission (1,000 tCO₂e)	Water Usage (million m³)
(a)	Existing Units	730	3,276	1,117	2,117	453
(b)	Decommissioning	(310)	(956)	(390)	(741)	(155)
(c)	Backup	420	342	108	203	44
(d)	New Units	510	3,554	691	1,496	7
(c)+(d)	After Project	930	3,896	799	1,699	51
(c)+(d)-(a)	Net Change	200	620	(318)	(418)	(402)

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. **Efficient and clean energy.** The project will construct two CCGT units (230–280 MW each) with at least 52% thermal efficiency at the existing Takhiatash TPP. Three existing units (Nos. 1–3) will be decommissioned and two (Nos. 7–8) will be kept for backup power generation, while underutilized structures (blocks 1 and 2) will be demolished and the land will be remediated. A single turnkey contractor will undertake these physical components. An implementation consultant will prepare the bidding documents.

7. **Capacity development.** The project will develop Uzbekenergo's capacity for becoming a commercially bankable utility. Tariff methodology study and training will develop the skills required to improve the tariff determination model and ensure cost-recovering tariff setting. Corporate performance management capacity will be measured and managed by developing key performance indicators. A risk-profile assessment study will help Uzbekenergo gain better access to financing. The project preparatory technical assistance (TA) consultant prepared the terms of reference and the capacity development road map.

8. **Social development.** The project will build a community social service center adjacent to Takhiatash TPP.⁴ The center, open to TPP employees and residents of Takhiatash City, will create jobs and include facilities such as laundry services, health checkups, and a gym. It will thus help improve the community's welfare and foster gender equality. The need for these facilities was established in a social survey undertaken by the project preparatory TA 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)												Responsibility
	1	2	3	4	5	6	7	8	9	10	11	12	
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; KPI = key performance indicator; 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
<ul style="list-style-type: none"> SJSC Uzbekenergo 	Executing Agency <ul style="list-style-type: none"> ➤ Electricity tariff setting ➤ 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

Staff Name: Mr. Rune Stroem

Position: Director, Energy Division, Central and West Asia

Department (CWEN/CWRD)

Telephone No.: +632-632-5645

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Mission Leader

Staff Name: Mr. Keiju Mitsuhashi

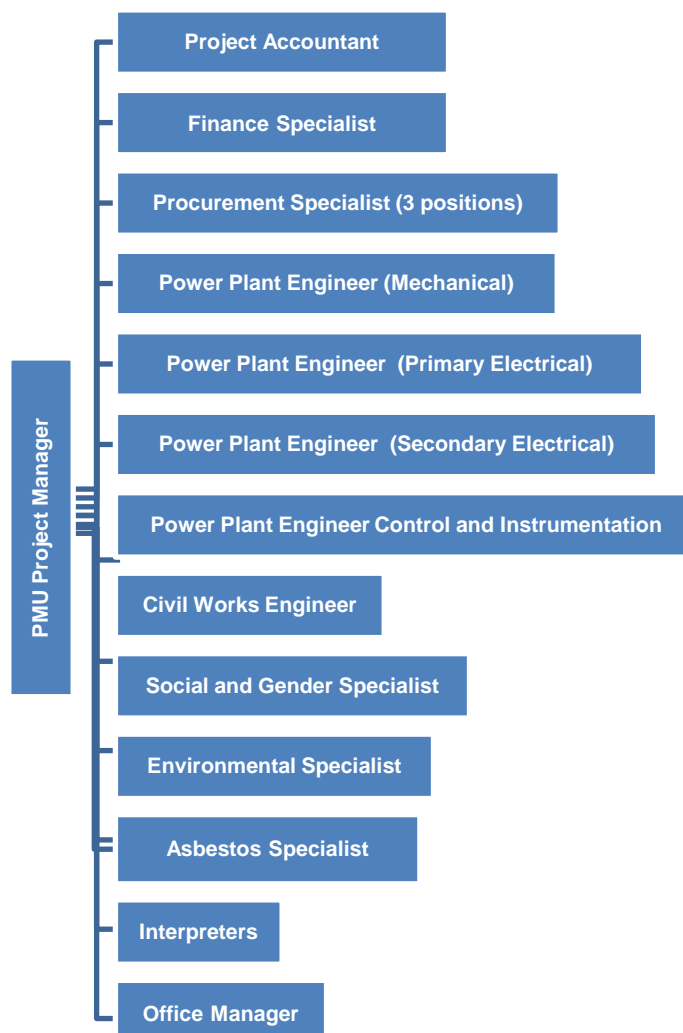
Position: Senior Energy Specialist, CWEN

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Email address: kmitsuhashi@adb.org

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:



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 • 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

Position	Terms of Reference
	<ul style="list-style-type: none"> • 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 • 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 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 the 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	(\$ million)		UFRD		Uzbekenergo		GoU		Total Cost
	ADB (OCR)		% of Cost		% of Cost		% of Cost		
	Amount	Category	Amount	Category	Amount	Category	Amount	Category	
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		Capacity development Component 2		Social development Component 3	
		Amount	% of Cost Category	Amount	% of Cost Category	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 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 the ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

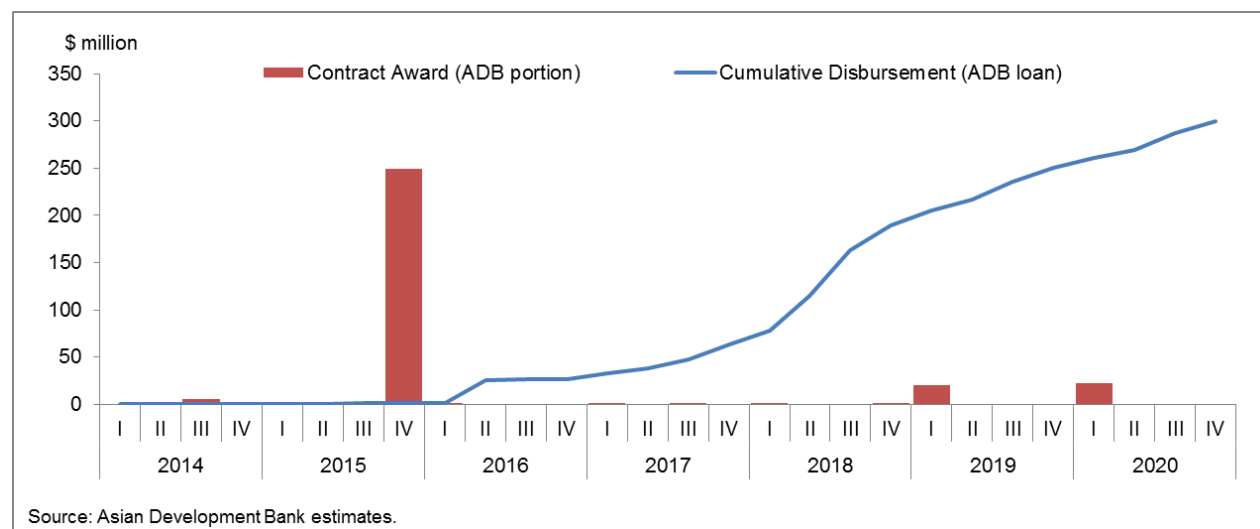
Source: Asian Development Bank estimates.

E. Expenditure Accounts by Year

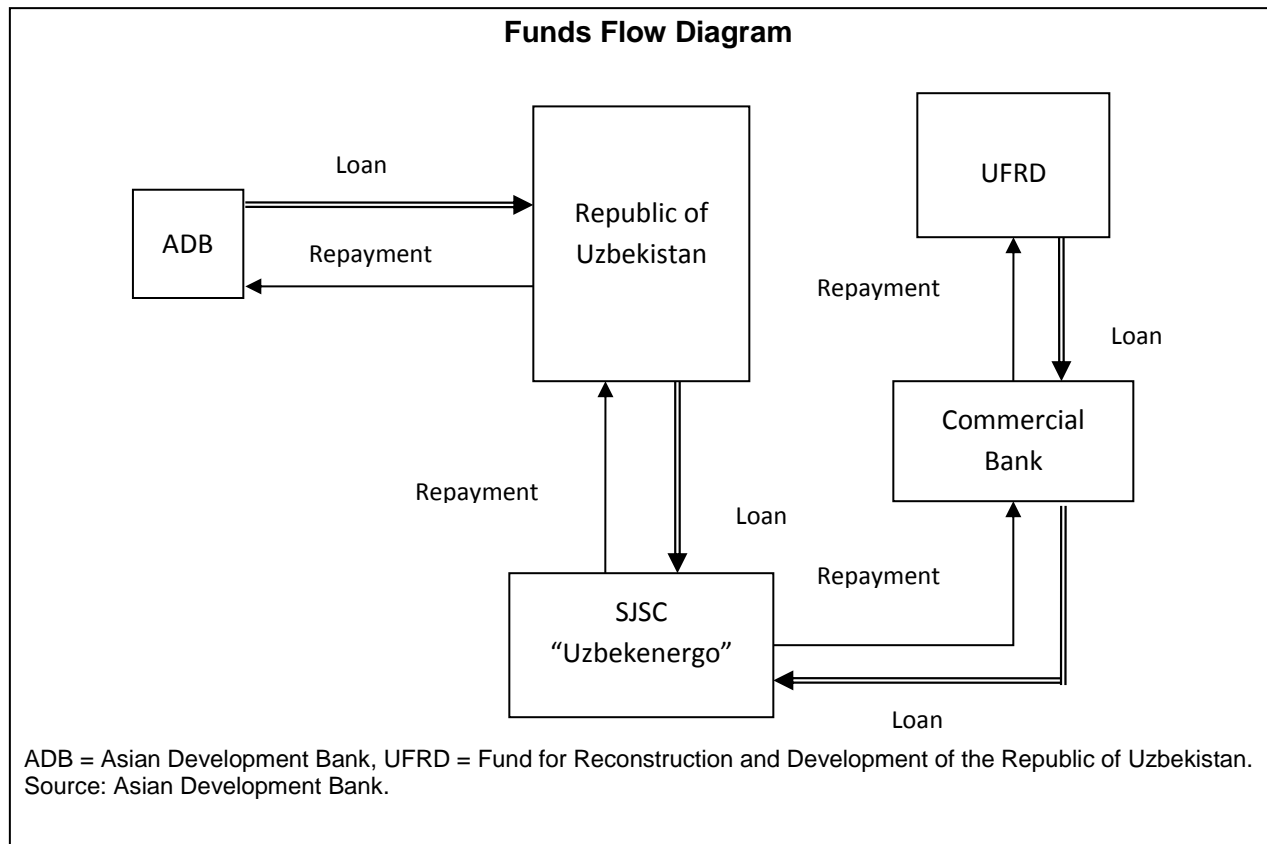
Item	(\$ million)							
	Total Cost	Year 1 2014	Year 2 2015	Year 3 2016	Year 4 2017	Year 5 2018	Year 6 2019	Year 7 2020
A. Base Costs								
1. Power Plant Construction	450.8	-	-	45.1	67.6	225.4	67.6	45.1
2. Decommissioning Works	31.8	-	-	-	-	14.6	9.3	8.0
3. Community Social Service Center	3.5	-	-	-	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.

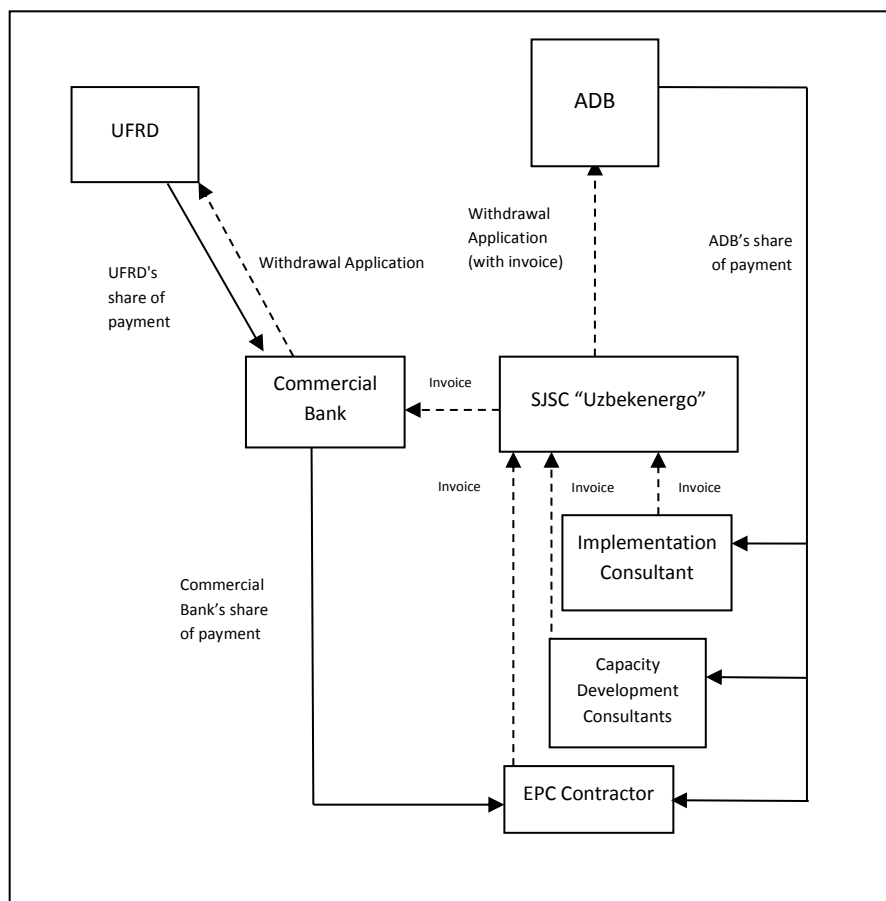
F. Contract and Disbursement S-curve



	Contract Awards (in USD million)					Total Disbursements (in USD million)				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2014	-	-	5.95	-	5.95	-	-	-	-	-
2015	-	1.00	-	249.40	250.40	0.60	-	0.30	0.40	1.30
2016	0.20	-	-	-	0.20	0.40	23.80	0.50	0.60	25.30
2017	0.20	-	0.40	-	0.60	5.70	5.20	10.10	15.90	36.90
2018	0.50	-	-	0.20	0.70	14.20	37.10	48.50	25.60	125.40
2019	20.05	-	-	-	20.05	15.80	12.10	18.40	14.70	61.00
2020	22.10	-	-	-	22.10	10.80	8.20	17.80	13.30	50.10

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. Funds flow 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 of 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: 15 May 2014

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	Q4 / 2014	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	Q3 / 2014		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	Q3 / 2014	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 / 2014	STP	Assignment: International Comments: To be financed by ADB

ADB = Asian Development Bank, CQS = consultants' qualifications selection, 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	Q3 / 2014		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.
- (ii) 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 PMU will recruit social development specialist to implement LARP and address other social concerns of the project if any.
- (ii) The LARP will be updated after completing the detailed design. The updated LARP report will be carried out with adequate consultation with affected people. The report should at least indicate any change on land acquisition from the detailed design, change on affected people, and change on budget for LARP implementation.
- (iii) The updated LARP has to be submitted to ADB to receive a concurrence prior to implementation.
- (iv) The updated LARP will be disclosed to affected people.
- (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 peoples, and it is not expected to generate impacts to indigenous peoples 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 peoples 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 2014. 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% of new jobs) 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 3,276 GWh (2011) to 3,896 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 1.7 mtCO₂e</p> <p>Takhiatash TPP gas consumption decreased from 1,117 million m³ (2011) to 799 million m³</p> <p>Takhiatash TPP water consumption decreased from 453 million m³ (2011) to 51 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>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>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 system 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 Nov 2015</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 Jan 2015</p> <p>2.2. Tariff study and training starts by Apr 2015</p> <p>2.3. Development of key performance indicators starts by Apr 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 border="0"> <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, GDP = gross domestic product, GHG = greenhouse gas, GWh = gigawatt-hour, kg = kilogram, m³ = cubic meter, mtCO₂e = million ton carbon dioxide equivalent, MW = megawatt, OCR = ordinary capital resources, 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.

Date Updated	PAM Section	Change	Appendix

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/>.

Outline Terms of Reference for Project Management and Supervision Consultants

RFP No.	ICB/Takhiatash-Uzbekenergo/001
Contract	Consulting Services for Project management and Supervision
Client	SJSC Uzbekenergo
Country	Uzbekistan
Project	Takhiatash Power Plant Efficiency Improvement Project
Finance source	ADB Loan [Loan No.: TBD]

A. Background

59. The objective of the Project is to improve energy efficiency of the Takhiatash thermal power plant (TPP) with the adoption of energy efficient technology that will contribute to increased reliable power supply and climate change mitigation. The project will include construction of two 230-280 MW (nominal size) combined cycle gas turbine (CCGT) power units, decommissioning of inefficient existing power plant units, and capacity development. Construction will be done by an engineering, procurement and construction (EPC) contractor. The EPC contract scope will cover detailed design, selection of equipment, installation, commissioning of two new CCGT units and decommissioning of old conventional thermal units.

Unit	Capacity (MW)	Commission year	Scope
Block 1 and 2	(dismantled)	1961, 1964	To be demolished
Block 3	200	1969	To be decommissioned
Block 4	110	1974	To be decommissioned
Block 5	210	1987	To be maintained as backup
Block 6	210	1990	To be maintained as backup
New CCGT 1	230-280	2017	To be commissioned
New CCGT 2	230-280	2017	To be commissioned

60. The project is a priority project identified by State Joint-Stock Company (SJSC) Uzbekenergo. The 730 MW Takhiatash TPP is the main power supply source for the Karakalpakstan and Khorezm regions with over 3 million people located in the western part of Uzbekistan. The power demand outlook is strong with a number of industrial development projects envisaged for the region, exceeding currently available capacity.

61. UE intends to procure a single EPC turnkey contractor to build the CCGT unit. The contractor is scheduled to be mobilized in the second quarter of 2016. A project preparatory consultant has been recruited under ADB technical assistance funding to assist UE in preparing technical specification of the CCGT units.

B. Objective of the Assignment

62. The proposed implementation consulting firm is recruited to assist UE in preparing bidding documents and evaluating bids, negotiating the EPC contract, supervising and monitoring the implementation and decommissioning progress of the project. UE will assist the consultants in the onsite coordination, data gathering and report writing. UE will also provide all necessary assistance to the consultants in liaising with other government ministries and agencies.

63. UE will provide and make available to the consultants, free of charge, the following facilities, services, equipment, materials, documents and information as required by the consultants for carrying out the assignment:

- (i) Counterpart staff/technical support;
- (ii) Office space: sufficient office space for the consultant team, with national and international telephone lines, electricity and air conditioning/heating, and internet connections;
- (iii) Office furniture: desks, office chairs, and bookshelves/cabinets adequate to accommodate the full complement of international and local consultants;
- (iv) Organizational support: assistance in all arrangements for workshops, meetings, and field visits; and access to required data, maps and other relevant information.

64. The consultants will be responsible for their personal computers and other facilities for producing reports.

65. The implementation of the project will require the service of a multidisciplinary team of consultants. An international consulting firm (the Firm) with national experts experienced in design of power plants is required to provide assistance on procurement, supervise the CCGT construction work, and oversee the decommissioning work.

C. Scope of Work

66. The firm will assist UE project management unit (PMU) in preparing bidding documents, evaluating bids and implementing a project performance monitoring system (PPMS) to evaluate effectiveness of the project. The PPMS will measure project performance against the parameters as set out in the Design and Monitoring Framework (DMF) of the ADB's Report and Recommendation of the President. The PPMS will establish baseline data and benchmarks, collect necessary information, monitor progress, identify benefits and evaluate social impact. The Firm will prepare necessary project plans, progress reports, payment certificates, provisional and final take over certificates, claims evaluation reports, project final report and any other project management documents as required in accordance with good practice and UE and ADB requirements.

67. The services to be provided by the Firm include but are not limited to, the following:

Task 1

- (i) Review and reconfirm the cost estimates, technical design and specifications, and if it has deficiency or need, update it;
- (ii) Gather primary data on climate condition collected by UE and process the data to produce the required climate condition for the final design, as required;
- (iii) Undertake tendering procedures including bidding documents preparation, bid announcement, clarification, pre-bidding meeting, issuance of addendum as required, bid evaluations, and contract negotiations, based on the two stage procedure in accordance with ADB's *Procurement Guidelines* (2013, as amended from time to time); and
- (iv) Provide trainings and capacity development for procurement, new technology management, operation and maintenance of CCGT units and safeguards capacity in Takhiatash TPP and UE.

Task 2

- (i) Compare as-built drawings to the design;
- (ii) Develop and implement a construction quality assurance program;
- (iii) Monitor implementation progress and identify what actions and resources are required to address the EPC needs to achieve the schedule and how the proposed project could be best implemented;
- (iv) Inspect materials before shipment upon arrival and upon erection;
- (v) Review the contractor's test procedures for compliance with manufacturers' requirements and design criteria. The consultant will witness selected tests and review the test results and submit a report;
- (vi) Monitor safeguards and environmental management plan (EMP) implementation and provide early warning of any potential safeguard risks;
- (vii) Verify contractor's work and issue certification of payment to the contractor;
- (viii) Prepare quarterly payment reports, ensure claim management, manage project financial statements and analyze the causes of delay, if any;
- (ix) Assist the EPC contractor and Takhiatash TPP in commissioning and decommissioning activities
- (x) Monitor the decommissioning progress of the old units; and
- (xi) Provide additional services as reasonably requested by UE and Takhiatash TPP to complete the project.

D. Qualification of the Firm

68. The firm shall have experience in (i) consulting engineering services involving preparation of bidding documents and tender evaluation on at least five and at least 300 MW CCGT power plant projects in the last 10 years and; (ii) supervisory work on CCGT power plants. The firm shall have the international consultants with expertise in gas/steam turbine design and operation, electrical/control and instrumentation of power plant, project management and implementation, bidding document preparation, procurement evaluation and institutional analyses. The firm shall have experience in developing countries in the region. Previous experience in decommissioning power plant and in the country is preferred. The assignment will be undertaken over a four year period until the commissioning of the new unit and decommissioning of the old units. For all international positions, Russian language skills are desirable and English language skills are compulsory. For all national positions, English language skills are desirable and Russian language skills are compulsory.

E. International Consultants-Qualification and Detailed Tasks

69. **Team Leader/Power Plant Engineer (36 person-months).** The qualified engineer shall have a bachelor or higher degree in engineering and at least 10 years of team leadership and 15 years of experience in design of power plant on at least 300MW class CCGT technology. The Engineer should have previous experience in procurement, engineering, business administration; knowledge of international organizations/agencies; previous work experience in projects financed by international financial organization, especially associated knowledge of ADB-financed project, disbursement and monitoring procedures. Experience in project implementation of CCGT power plants would be preferred. The Engineer will manage the Consultant's team as team leader and be the Power Plant Engineer at the same time. The Consultant shall have at least 15 years of experience on CCGT technology which shall include CCGT power plant of at least 300 MW class. Previous experience in developing countries in the region is desirable. The Team Leader/Power Plant Engineer will undertake the following:

- (i) Coordinate with other team members to develop a detailed work plan and implementation schedule;
- (ii) Review and prepare the scope, capital and operating cost estimates, implementation schedule, contracting, and implementation arrangements;
- (iii) Ensure reports are delivered to required quality and schedule;
- (iv) Review the technical specification of the CCGT unit prepared by the project preparatory consultant;
- (v) Assist procurement specialists and Uzbekenergo in preparing the bidding document especially on technical related matters, evaluation of bid and preparation of BER;
- (vi) Review and confirm the proposed technical design and configuration of the CCGT power unit and ensure contractor's designs and works are executed following project requirement;
- (vii) Supervise and monitor the project implementation;
- (viii) Develop and maintain a project safety plan and project quality assurance plan and ensure compliance with plan;
- (ix) Certify As-Built drawings and progress payments; and
- (x) Prepare quarterly payment reports and analyze causes of delay, if any, and propose remedial measures as necessary.

70. **Gas-Steam Turbine Engineer (Deputy Team Leader - 18 person-months).** The Engineer shall have a bachelor or higher degree in engineering and at least 15 years of experience on CCGT technology which shall include gas/steam turbines of at least 300MW class. Previous experience in developing countries in the region is desirable. The Gas/Steam Turbine Engineer will undertake the following:

- (i) Work closely with the team leader in ensuring efficient project implementation, when the team leader is not available, act as deputy team leader;
- (ii) Review the technical specification of the CCGT unit prepared by the project preparatory consultant;
- (iii) Assist procurement specialists and UE in preparing the bidding document especially on turbine related matters and review the bidding document;
- (iv) Assist procurement specialists and Uzbekenergo in evaluating bids and preparing BER related to gas/steam turbine;
- (v) Review and confirm the contractor's design submissions;
- (vi) Supervise and monitor the project implementation related gas/steam turbine;
- (vii) Monitor progress against plan;
- (viii) Certify As-Built drawings and progress payments; and
- (ix) Ensure adherence to project safety plan and quality assurance plan.

71. **Procurement Specialist (6 person-months).** The specialist shall have a bachelor or higher degree in engineering and at least 15 years of relevant experience in procurement roles of major power plant projects. The specialist shall have advance knowledge of international organizations/agencies and national public procurement regulations and procedures, especially associated knowledge of ADB procurement. The specialist should also have previous work experience in procurements and should have work on projects financed by international financial organization, especially ADB founded projects. Direct experience of public sector procurement (legislation, Institutional framework, systems and training) are added advantages. Previous experience in developing countries in the region is desirable. The specialist will undertake the following:

- (i) Assist Uzbekenergo in developing procurement capacity;
- (ii) Assist UE and Takhiatash TPP in creating procurement committee;

- (iii) Prepare bidding document for the EPC contract and evaluate bid;
- (iv) Assist UE in monitoring and evaluating procurement progress, procedures compliance and BER preparation;
- (v) Ensure adherence to project safety plan and quality assurance plan; and
- (vi) Update procurement status databases on procurement processes and contract awards.

72. **Electrical Engineer (16 person-months).** The Engineer shall have a bachelor or higher degree in electrical engineering and at least 15 years of professional experience in applying design and application of electrical system for power plants on at least 300MW class CCGT technology. Previous experience in developing countries in the region is desirable. The Engineer will undertake the following tasks:

- (i) Coordinate with other team members and help team leader develop a detailed work plan and implementation schedule;
- (ii) Assist team leader and procurement specialists in the evaluation of bids and preparation of BER related to electrical equipment and electrical wiring;
- (iii) Supervise and monitor the project implementation with electrical equipment and electrical wiring, and
- (iv) Ensure adherence to project safety and quality assurance plans.

73. **Control & Instrumentation Engineer (12 person-months).** The Engineer shall have a bachelor or higher degree in engineering and at least 15 years of professional experience in applying design and application of control & instrumentation system for power plants on at least 300 MW class CCGT technology. Previous experience in developing countries in the region is desirable. The Engineer will undertake the following tasks:

- (i) Coordinate with other team members and help team leader develop a detailed work plan and implementation schedule;
- (ii) Assist team leader and procurement specialists in the evaluation of bids and preparation of BERs related to control & instrumentation equipment;
- (iii) Supervise and monitor the project implementation with control & instrumentation related equipment, and
- (iv) Ensure adherence to project safety and quality assurance plans.

74. **Civil Engineer (18 person-months).** The Engineer should have a bachelor or higher degree in engineering and at least 15 years of relevant experience in design and implementation of power plants which shall include at least two CCGT power plants with at least 300MW capacity. Previous experience in developing countries in the region is desirable. The Engineer will undertake the following:

- (i) Coordinate with other team members and help team leader develop a detailed work plan and implementation schedule;
- (ii) Assist procurement specialists and UE in the preparation of bidding document, evaluation of bid and preparation of BER related to civil work;
- (iii) Supervise and monitor the civil works of the Project; and
- (iv) Ensure adherence to project safety plan and quality assurance plan.

75. **Operation & Maintenance (O&M) Engineer (6 person-months).** The Engineer should have a bachelor or higher degree in engineering and at least 15 years of relevant experience in O&M of CCGT power plants. Previous experience in developing countries in the region is desirable. The Engineer will assess UE's capacity in CCGT O&M and recommend capacity building measures as appropriate. The Engineer will also advise maintenance and spares holding strategy. The Engineer will undertake the following:

- (i) Assess CCGT power plant O&M capacity and skills level in UE and recommend necessary institutional and capacity building measures to meet the new CCGT power unit needs. Capacity building options to be considered shall include (a) specialist training by the CCGT equipment suppliers and electrical control suppliers, (b) need for contractor's specialist staff to provide on the ground and/or remote advisory services, and (c) non-equipment specific O&M training to be provided in UE;
- (ii) Based on actual market, geographic conditions and power plant strategy, recommend appropriate O&M activities to be carried out by UE staff and if any activities should be outsourced;
- (iii) Propose a spares holding strategy;
- (iv) Identify the various maintenance options and recommend the optimal approach;
- (v) Advise on procurement options for training services. Where appropriate, include such scope in the Bidding Document for the EPC contract; and
- (vi) Provide trainings, workshops and seminars for the operational personnel to build O&M capacity and ensure smooth operation;
- (vii) Ensure training of client counterpart staff through on-the-job training and classroom training programs; and
- (viii) Ensure adequacy of operation and maintenance manuals.

76. **Environmental Specialist (6 person-months).** The Environmental Specialist should have a bachelor or higher degree in environmental engineering and at least 10 years of relevant experience in power plant related projects. Previous experience in developing countries in the region is desirable. The specialist will assist in the following:

- (i) Recommend monitoring plans to address identified significant environmental impacts;
- (ii) Ensure that the cost of implementing mitigation measures for identified environmental management and monitoring plans, and any strengthening measures, are included in the bidding documents;
- (iii) Monitor safeguards and EMP implementation to ensure the safeguards and EMP are properly implemented;
- (iv) Ensure the environmental safeguard compliance during construction of the new CCGT unit and demolition of the old units;
- (v) Prepare the updated EIA report and prepare Semi-annual environmental monitoring reports with standards acceptable to the Government and ADB; and
- (vi) Assist UE with capacity building on environmental safeguard.

77. **Commissioning Engineer (3 person-months).** The Commissioning Engineer should have a bachelor or higher degree in mechanical engineering with at least 15 years of relevant experience in commissioning of CCGT power plants. He/she should have commissioned at least 3-projects in last five years having similar capacity or higher and complexity. The Engineer will undertake the following:

- (i) Coordinate and finalize all commissioning schedules with the EPC contractor;
- (ii) Develop an inspection and testing plan covering factory and site tests;
- (iii) Review and approve all final commissioning procedure/methodology in line with relevant International standards;
- (iv) Supervise testing and commissioning as required;
- (v) Inspect and verify calibrations/certifications of the testing equipment as per relevant standards;

- (vi) Monitor and verify all guaranteed values as per contract terms;
- (vii) Ensure adherence to project safety plan and quality assurance plan.
- (viii) Prepare the impact reports and remedies in case of any test failures; and
- (ix) Prepare report for the Client to issue final acceptance certificate

78. **Decommissioning Engineer (6 person-months).** The Decommissioning Engineer should have a bachelor or higher degree in mechanical engineering with at least 10 years of experience in power plant. He/she should have decommissioned at least 3-projects having similar capacity or higher and complexity. He/she should have good knowledge of metallurgy and materials used in power plant construction. The Engineer will undertake the following:

- (i) Coordinate and finalize all decommissioning schedules with the EPC contractor;
- (ii) Review and approve all procedure/methodology in line with relevant International standards;
- (iii) Ensure implementation of international regulations in dismantling and dumping of all materials and components; and
- (iv) Prepare the impact reports and remedies for all sensitive materials.

F. National Consultants (Six)

79. Six National Consultants shall be hired including one Environmental and Waste Management Specialist (9 person-months), one Civil Engineer (36 person-months), one Decommissioning Engineer (12 person-months), one Procurement Specialist (12 person-months) and two Power Plant Engineers (36 person-months each). The duties of the national consultants are to assist the International Power Plant Engineer, the International Gas/Steam Turbine Engineer, the International Procurement Specialist, the International Decommissioning Engineer, the International Environmental Specialist, and the International Civil Engineer in (i) monitor the project implementation; (ii) collect data and prepare documents; (iii) visit the Project site, talk to government agencies and participate in public consultation, if required by the team leader; (iv) assist with procurement process; (v) assist in monitoring waste management and safeguard implementation; (vi) assist in monitoring equipment decommissioning and; (vii) assist with payment analysis.

80. The national consultants shall have a bachelor or higher degree in engineering and at least 10 years of relevant experience of major power plant projects. The consultants should have work on projects financed by international financial organization, especially ADB founded projects.

G. Reporting requirements

81. The Consultants will prepare and submit to UE and ADB required reports in both English and in Russian languages, including, but not limited to, the bidding document, BER, an inception report, quarterly progress reports, monthly monitoring reports, a draft final report, and a final report with executive summary, as follows:

- (i) The bidding document shall be submitted to UE and ADB within 2 months of commencement.
- (ii) The BER with recommendation on contract awarding shall be submitted to UE and ADB within 3 months of bid opening;
- (iii) The inception report shall be submitted to UE and ADB within the first month of the commencement of fieldwork. The inception report shall outline the proposed

- work program and any apparent barriers to prevent the successful completion of the project;
- (iv) Quarterly progress reports shall be submitted to UE and ADB to address the progress and related issues rose during the project implementation on a quarterly basis;
 - (v) Semi-annual environmental monitoring reports during the construction period and annual environmental monitoring reports during the operation period shall be submitted to UE and ADB;
 - (vi) In addition to the quarterly progress reports, regular monthly monitoring reports should be sent to UE and ADB to inform the progress and related issues of the project. UE and ADB will review the progress of project implementation as well as monitor achievement of development objectives;
 - (vii) Draft final draft report will be submitted after completion of the project. Within one month of its submission to UE and ADB, a tripartite meeting comprising ADB, UE, and the Consultants will be held to discuss the draft final report and review its findings; and
 - (viii) The final report will be submitted within one month of receipt of comments from UE and ADB.

H. Level of Effort of Team of Consultants

82. The expected level of effort from the Firm is shown in the following tables.

A. For international consultants:

Team Member		Person-month
1	Team Leader/Power Plant Engineer	36
2	Procurement Specialist	6
3	Electrical Engineer	16
4	Control & Instrumentation Engineer	12
5	Civil Engineer	18
6	Gas-Steam Turbine Engineer	18
7	O & M Engineer	6
8	Environmental Specialist	6
9	Commissioning Engineer	3
10	Decommissioning Engineer	6
Total		127

B. For national consultants:

Team Member		Person-month
1	Power Plant Engineer 1	36
2	Power Plant Engineer 2	36
3	Procurement Specialist	12
4	Environmental & Waste Management Specialist	9
5	Decommissioning Specialist	12
6	Civil Engineer	36
Total		141

I. Period

83. The assignment will be undertaken over a 6 years period on an intermittent basis (Oct 2014 to Nov 2020).

Outline Terms of Reference for Capacity Development Program Manager

RFP No.	ICS/Takhiatash-Uzbekenergo/002
Contract	Capacity Development Program Manager
Client	SJSC Uzbekenergo
Country	Uzbekistan
Project	Takhiatash Power Plant Efficiency Improvement Project
Finance source	ADB Loan [Loan No.: TBD]

A. Background

84. The objective of the Project is to improve energy efficiency of the Takhiatash thermal power plant (TPP) with the construction of two highly efficient 230-280 MW (nominal size) combined cycle gas turbine (CCGT) power units, decommissioning of inefficient existing power plant units, and capacity development. The project will contribute to increased reliable power supply and climate change mitigation in Uzbekistan.

85. As the executive agency of this project, Uzbekenergo needs to develop a strategy and build the capacity to become a more commercially bankable utility in the medium term. Modern management system with performance accountability needs to be introduced. The government and UE will benefit from learning and adopting the best international practices for tariff determination methodology to improve efficiency and to ensure fully cost recovery. All these measures are essential to build confidence for the potential creditors.

86. The capacity development component will help UE to develop its capacity and become a commercially bankable utility. Tariff methodology study and training will develop the skill sets 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 (KPI). Risk profile assessment will guide UE to increase its access to finance. It is important that UE can coordinate the capacity development activities under various projects. UE also has a capacity development program for corporate management, financial management, safeguards and gender, and operation and maintenance. Therefore a capacity development unit will be established and it will be located within the Executive Office of UE and report to the Deputy Chairman (finance).

B. Scope of Work

87. The capacity development unit will be managed by an experienced capacity development program manager who will have the authority and support of the Board. The capacity development program manager will direct the Unit's activities, including engaging with prospective advisors, issuing term of references and engaging secondees from UE management outside the Executive Office where necessary.

88. The Program manager will manage the implementation of various capacity development activities, including, but not limited to:

- (i) Tariff determination, review and implementation, cashflow management;

- (ii) Development and implementation of KPIs to set accountabilities and measure management performance;
- (iii) IT diagnosis of key IT processes and development and implementation of the MIS;
- (iv) Implementation of IFRS capabilities and reporting to enable audit under International Standards of Auditing; and
- (v) Capacity development for safeguards and gender consideration.

89. The services to be provided by the program manager include but are not limited to, the following:

- (i) Assist UE with the review of proposals from consultants and the evaluation and appointment of consultants using ADB's Guidelines on the Use of Consultants;
- (ii) Manage the progress of consultants through review meetings and project updates;
- (iii) Ensure UE is providing the appropriate level of support to the consultants' activities and delivering information requests in a timely manner;
- (iv) Managing the availability of UE resources and arranging secondments where requested by the consultants;
- (v) Maintain records, document decisions made at meetings and progress on implementation milestones, and take notes of any deviations from or changes to the contract plans;
- (vi) Arrange meetings between UE management and consultants, as required;
- (vii) Liaise with external parties such as auditors, IFI lenders and government agencies to ensure that there are no issues or impediments that could delay implementation of capacity development projects;
- (viii) Foster collaboration and inclusive decision making between the consultants and UE;
- (ix) Keep update the progress, issues and draft recommendations from the consultants to UE senior managers;
- (x) Ensure timely feedback and suggestions from the UE senior managers; and
- (xi) Prepare monthly report and quarterly progress report to Deputy Chairman on timelines, progress and issues/risks.

C. Qualifications of the Capacity Development Program Manager

90. The Program Manager should have a bachelor degree or higher in management, economics or finance. The consultant shall have at least 5 years proven experience in project management in the electricity industry and the state sector. Previous experience in developing countries in the region is desirable. Fluency in English is essential and Russian language competency is strongly desired.

D. Reporting requirements

91. The Consultants will prepare and submit to UE and ADB required reports in both English and in Russian languages, including, but not limited to the following:

Deliverables	Estimated Date
Monthly Report	End of every month
Quarterly Progress Report	Two weeks after every quarter

92. All documents and reports are to be made available in an electronic form to UE and ADB.

E. Level of Effort

93. It is estimated that the project manager will commence in January 2015 and take 20 person-months. The project manager will be expected to be in Tashkent for the majority of this time.

F. Period

Expression of interest August 2014
 Proposal Evaluation September - October 2014
 Contract Award November 2014
 Contract Registration January 2015
 Notice to proceed January 2015
 Contract January 2015 – June 2017

G. Client's Inputs and Counterpart Personnel under Contract

94. Uzbekenergo will assist the consultants in data gathering and access to all internal systems and processes and personnel. UE will provide and make available to the consultants, free of charge, the following facilities, services, equipment, materials, documents and information as required by the consultants for carrying out the project:

- (i) Counterpart staff/technical support.
- (ii) Office space with international telephone lines, electricity and internet connections.
- (iii) Office furniture. Desks, chairs and filing cabinets.
- (iv) Organizational support, assistance in arrangements for workshops, meetings and field visits and access to required data, maps and other relevant information.

95. The consultants will be responsible for their own personal computers and other facilities for producing reports. The consultants will be responsible for translating all reports from English (prime report language) into Russian.

96. The consultants will be expected to coordinate with the Uzbekenergo, ADB and other consultants working on capacity development programs, and the contractor for MIS upgrading.

Outline Terms of Reference for Corporate Management Improvement

RFP No.	ICB/Takhiatash-Uzbekenergo/003
Contract	Consulting Services for Corporate Management Improvement
Client	SJSC Uzbekenergo
Country	Uzbekistan
Project	Takhiatash Power Plant Efficiency Improvement Project
Finance source	ADB Loan [Loan No.: TBD]

A. Background

97. The objective of the project is to improve energy efficiency of the Takhiatash TPP with the construction of two highly efficient 230-280 MW (nominal size) combined cycle gas turbine (CCGT) power units, decommissioning of inefficient existing power plant units, and capacity development. The project will contribute to increased reliable power supply and climate change mitigation in Uzbekistan.

98. As the executive agency of this project, Uzbekenergo (UE) needs to develop a strategy and build the capacity to become a more commercially bankable utility in the medium term. Modern management system with performance accountability needs to be introduced. The government and UE will benefit from learning and adopting the best international practices for tariff determination methodology to improve efficiency and to ensure fully cost recovery. All these measures are essential to build confidence for the potential creditors.

99. The capacity development component will help UE to develop its capacity and become a commercially bankable utility. The capacity development for corporate management includes tariff methodology study and training, and development and implementation of key performance indicators (KPI). Tariff methodology study and training will develop the skill sets 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 (KPI). A capacity development unit will be established and it will be located within the Executive Office of UE and report to the Deputy Chairman (finance).

B. Scope of Work

1. Tariff methodology and training

100. An international consulting firm (the consultants) is to be recruited by UE to: i) review the current electricity tariff setting methodology in Uzbekistan, identifying areas for improvement based on international best practice, ii) recommend improvements to the end-user tariff structure based on a detailed cost of service study, and iii) develop an implementation plan for making recommended changes to the tariff methodology and end-user tariff structure, including providing training to relevant staff at UE and the Ministry of Finance.

2. The services to be provided by the consultants include but are not limited to, the following:

a. Task 1-1: Recommend Improvements to Existing Tariff Methodology

101. The consultants shall review the existing tariff methodology and recommend improvements for UE based on international best practice. The review should focus on i) the methodology for setting inter-company tariffs for subsidiary companies of UE, including generation, transmission, and distribution companies, and ii) the methodology for calculating the total revenue requirement for the power sector. Specific activities to be carried out include, but are not limited to the following:

- a) Review the existing tariff setting framework for UE based on consultation with UE and the Ministry of Finance, legal and regulatory documents related to electricity tariffs, and regulatory forms provided by UE to the Ministry of Finance as part of its tariff determination process.
- b) Identify gaps and/or areas for improvement in the existing tariff methodology with focus on calculation of the depreciation and allowed profit in the inter-company tariffs as well as to the methodology for including losses (technical and commercial) in the sector revenue requirement and allocating the cost of those losses to specific companies.
- c) Recommend improvements to the tariff methodology based on international best practice with the following goals: i) set tariffs at cost-recovery level for each subsidiary entity of UE and for the company as a whole, ii) improve investor confidence by increasing the transparency of the mechanism for calculating the company's allowed return, and iii) incentivize improvements in sector performance.

b. Task 1-2: Recommend Improvement to Tariff Structure

102. The Consultants should carry out a cost of service study in order to support recommendations on improvements to the end-user electricity tariff structure. The study shall include, but is not limited to the following activities:

- a) Estimate the revenue requirement for generation, transmission, distribution, and system operation/dispatch services considering: i) efficient cost of operations, ii) investment needs for rehabilitating, upgrading, and expanding generation, transmission, and distribution asset to meet a reasonable level of reliability and service quality standards, iii) financing costs, and iv) a reasonable return on assets.
- b) Determine cost causation by type of service provided and voltage level served.
- c) Allocate revenue to customer classes based on the cost causation results and other best practice principles for revenue allocation.
- d) Recommend tariff structure and tariff levels for each customer class, such as implementation of time-of-use (e.g. day/night) rates based on the results of the cost of service analysis considering limitations posed by existing metering infrastructure and data availability.

c. Task 1-3: Develop Implementation Plan

103. The Consultants shall develop an implementation plan for moving from the current tariff structure and rates to the proposed tariff structure. The plan should include transition mechanisms to avoid one-time rate shock for any single customer class and social mitigation measures to protect low-income customers, as required. The plan shall specify the duration of the transition to the new tariff structure and rates and indicate intermediate milestones as necessary.

d. Task 1-4: Provide Training

104. The Consultants shall provide training to UE and to the Ministry of Finance on implementation of the recommended tariff methodology and how to calculate end-user tariffs under the revised tariff structure.

3. Development and Implementation of Key Performance Indicators (KPI)

105. The main objectives are to: i) recommend a set of 10-12 KPIs and establish methodology for KPI calculation, ii) provide support to UE staff in establishing a data baseline for monitoring KPIs and determining KPI targets in consultation with senior management and the Board of UE, and iii) establish a monitoring and accountability framework for achieving KPI targets. The services to be provided by the consultants include but are not limited to, the following:

a. Task 2-1: Recommend KPIs and Establish KPI Methodology

106. The Consultants shall recommend KPIs that will support improved commercial practices and corporate management of UE. Specific activities to be carried out include, but are not limited to the following:

- a) Review and identify gaps in the existing operational and financial management of UE;
- b) Identify 20-30 KPIs to address the defined weaknesses in company management, which shall cover a range of performance issues including, but not limited to, operational performance, financial performance, gender balance, and service quality;
- c) Select 10-12 KPIs for implementation considering existing information availability and data reporting constraints in consultation with senior management and the Board of UE;
- d) Carry out workshops to ensure that senior staff understands the drivers of the proposed KPIs;
- e) Establish methodology for calculating KPIs, which should specify the data to be collected, the collection frequency, time for collection, place to be collected, equipment to be used and the responsible person. The methodology should also define the formulas for calculating each KPI.

b. Task 2-2: Establish Data Baseline

107. Once the methodology for KPI data collection is determined, the Consultants shall support UE in implementation of data collection in order to establish a data baseline, which may include, but is not limited to, providing training to UE staff, monitoring data collection efforts and troubleshooting problems that may develop, and reviewing data collection outputs to ensure consistency with the data collection methodology established under Task 1.

c. Task 2-3: Determine KPI Targets

108. Upon establishment of the data baseline, the Consultants shall determine KPI targets for UE in consultation with senior management and the Board. To determine KPI targets, the Consultants should undertake the following:

- a) Analyze the data baseline in order to fully understand the “starting point” for performance improvement;
- b) Conduct benchmark performance analysis against a set of comparable utilities from both developed and middle-income countries in order to determine long-term and intermediary targets for UE;
- c) Determine KPI targets for UE based on the data baseline analysis and benchmarking exercise;
- d) Provide workshop to senior management and the Board of UE on the recommendations for KPI targets and the findings of the baseline analysis; and
- e) Select KPI targets for implementation in consultation with UE.

d. Task 2-4: Develop Monitoring and Accountability Framework

109. Once the KPI targets are selected, the Consultants shall develop a framework for monitoring and increasing performance accountability at UE. The framework should:

- a) Determine responsible person for preparing KPI report and the frequency of reporting;
- b) Identify the entity to review UE’s report and verify their accuracy;
- c) Describe the penalty for missing targets, including financial penalties or tariff reductions; and
- d) Determine an incentive mechanism for rewarding superior performance through bonuses or public recognition.

e. Task 2-5: Prepare KPI Manual

110. The Consultants shall develop a KPI manual which describes:

- a) The selected KPIs and the reason for selection;
- b) The methodology for data collection and formulas for calculating the KPIs;
- c) The KPI targets for UE; and
- d) The monitoring and accountability framework for implementing the KPIs.

4. Cash Management Process Improvement

111. The main objectives are cash management process improvement are: i) identification and mapping of existing cash management processes between the Executive Office and trading companies within the UE group; ii) Development and documentation of Cash Management Procedures that ensure the efficient use of funds and the accurate allocation of receipts and payments between group entities; iii) implementation of the new cash management procedures; and iv) initial training on the application of the new procedures to Executive Office and trading company staff involved in cash reporting and transacting. This will be done in parallel with implementation. The services to be provided by the consultants include but are not limited to, the following:

a. Task 3-1 Confirmation and Mapping of existing Cash Management Procedures

- a) As background, cash disbursement to subsidiary companies is based on a monthly request for funds sent to the Chief Accountant. The monthly request for funds is based on the annual budget, which is, in turn, based on the annual

contract for energy generated or delivered, not actual expenses. Internal invoicing therefore has little to do with actual cash-flows. Revenues and cash-flows are eventually reconciled, however, the fact that payment between subsidiary companies are not made on the basis of invoices received means that revenue and cash flow must be reconciled retroactively. This is done manually on a monthly basis by the Chief Accountant's department. Currently, the Executive Office of UE acts as the cash clearing house between generation and distribution subsidiaries.

- b) The Consultants will interview accounting staff and conduct sample testing of current cash management procedures, document the cash flows, and identify control and efficiency issues or gaps that need to be addressed.
- c) The Draft Report and process mapping document will be completed in consultation with UE management to ensure it fully identifies all cash flow processes.

b. Task 3-2 Development and Documentation of Improved Cash Management Procedures and Processes

- a) The Consultants will apply best practice process improvements and customize these to ensure they can be effectively operated within the current UE systems and reporting environment.
- b) Prepare fully documented Cash Management Procedures and Processes that address the issues and gaps with existing procedures, achieve best practice for a vertically integrated energy company.
- c) Seek UE management agreement to the proposed Procedures and Processes to ensure that existing systems and infrastructure will support the introduction of the new Procedures and Processes.
- d) Develop a transition plan from existing procedures to new procedures to ensure that the integrity of financial records and reporting is maintained.
- e) Obtain Internal and External Audit sign off on the new procedures and processes.

c. Task 3-3 Implementation of the new Cash Management Procedures and Processes

- a) In consultation with UE management prepare an implementation plan and timetable for the introduction of the improved Cash Management Procedures and Processes.
- b) Ensure the transition from existing to proposed Cash Management processes is seamless, maintains internal controls and is non-disruptive to other organizational activities.
- c) Provide assistance and guidance with any work that may be required to successfully transition to the new procedures and processes.

d. Task 3-4 Conduct Initial Training Programs

- a) In consultation with UE, select the specific trainees who are involved in the Executive Office and subsidiary cash management activities.
- b) Conduct the training at locations and at times to be agreed with UE.

- c) All training documentation will be produced in English and Russian and shall be available to UE for future repeat training for new or replacement staff.

C. Minimum Qualifications Requirements

112. The International consulting firm shall have (i) proven experience advising on electricity tariff regulation and conducting detailed tariff analysis in a non-developed country context; (ii) proven experience on corporate management and establishing KPIs in the electricity sector; and (iii) proven experience in defining and implementing Cash Management procedures and processes that represent best practice in a vertically integrated energy company. Previous experience in developing countries in the region is desirable. Fluency in English is essential and Russian language competency is strongly desired.

D. Reporting requirements

113. The consultants will prepare and submit to UE and ADB required reports in both English and in Russian languages, including, but not limited to the following:

Tasks	Deliverables	Estimated Date
Task 1 Tariff Analysis	Inception Report	June 2015
	Report on Tariff Methodology Recommendations	August 2015
	Cost of Service Study Report	February 2016
	Implementation Plan	August 2016
	Training Materials	November 2016
	Draft Final Report	January 2017
	Final Report	March 2017
Task 2 Key Performance Indicator	Inception Report	June 2015
	Report and Recommendation on KPIs and KPI methodology	November 2015
	Data Baseline Progress Report	March 2016
	KPI Targets Report	July 2016
	Monitoring and Accountability Framework	September 2016
	Draft KPI Manual	January 2017
	Final KPI Manual	March 2017
Task 3 Cashflow Management	Inception Report	June 2015
	Report on Review and mapping of Current Cash Management Procedures and processes	August 2015
	Development and documentation of improved Cash Management Procedures	October 2015
	Implementation Plan and Implementation	December 2015
	Conduct initial training for Executive Office and regional office accounting staff	February 2016
	Draft Final Report	June 2016
	Final Report	August 2016

114. All documents and reports are to be made available in an electronic form to UE and ADB.

E. Level of Effort

115. It is estimated that the contract will commence in February 2014 for a period of two years. Task 1 (Tariff determination study) is estimated to take 10 international expert person-months, Task 2 (KPI development and implementation) 15 person-months, and Task 3 (cashflow management improvement) 6 person-months. The consultants will be expected to travel to Tashkent on an intermittent basis to conduct data gathering, workshops and training.

F. Period

Expression of interest July 2014
 Request for Proposal August 2014
 Technical Evaluation October 2014
 Financial Evaluation December 2014
 Contract Award January 2015
 Contract Registration April 2015
 Notice to proceed April 2015

G. Client's Inputs and Counterpart Personnel under Contract

116. UE will assist the consultants in data gathering and access to all internal systems and processes and personnel. UE will provide and make available to the consultants, free of charge, the following facilities, services, equipment, materials, documents and information as required by the consultants for carrying out this project:

- i) Counterpart staff/technical support.
- ii) Office space with international telephone lines, electricity and internet connections.
- iii) Office furniture. Desks, chairs and filing cabinets.
- iv) Organizational support, assistance in arrangements for workshops, meetings and field visits and access to required data, maps and other relevant information.

117. The consultants will be responsible for their own personal computers and other facilities for producing reports. The consultants will be responsible for translating all reports from English (prime report language) into Russian.

118. The consultants will be expected to coordinate with the Uzbekenergo, ADB and other consultants working on capacity development programs, and the contractor for MIS upgrading.

Outline Terms of Reference for External Auditor

RFP No.	ICB/Takhiatash-Uzbekenergo/004
Contract	External Audit
Client	SJSC Uzbekenergo
Country	Uzbekistan
Project	Takhiatash Power Plant Efficiency Improvement Project
Finance source	ADB Loan [Loan No.: TBD]

A. Background

119. The objective of the Project is to improve energy efficiency of the Takhiatash thermal power plant (TPP) with the construction of two highly efficient 230-280 MW (nominal size) combined cycle gas turbine (CCGT) power units, decommissioning of inefficient existing power plant units, and capacity development. The project will contribute to increased reliable power supply and climate change mitigation in Uzbekistan. The capacity development component will help UE to develop its capacity and become a commercially bankable utility.

120. ADB requires external audit of project financial statements and corporate financial statements of Uzbekenergo during the project implementation. External auditor acceptable to

ADB will be recruited to audit the project financial statements and Uzbekenergo's corporate financial statements annually. This will enable the auditor to express an independent opinion on whether financial statements of Uzbekenergo present fairly, in all material respects, the financial position of Uzbekenergo and accounts of the projects, and if the results of operations Uzbekenergo follow international accounting standards of Uzbekistan.

B. Scope of Work

121. The objective is to enable the auditor to express an independent opinion on whether:

- a) Consolidated financial statements of SJSC "Uzbekenergo" for the financial years ended 31 December 2013, 31 December 2014 and 31 December 2015 are prepared, in accordance with International Financial Reporting Standards (IFRS) published by the International Accounting Standards Board (IASB);
 - o Under IFRS 1, a complete set of financial statements includes the following:
 - Statement of Financial Position;
 - Income Statement;
 - Statement on Changes Equity
 - Cash Flow Statement - Form No.4
 - Accounting policies and explanatory notes
- b) Project financial statements on accounts of the Takhiatash Power Plant Efficiency Improvement Project for the financial year ended 31 December 2013, 31 December 2014 and 31 December 2015 are prepared, in all material respects, in accordance with the cash-based IPSAS promulgated by the IFAC; and
- c) The funds were used for the purpose intended.

122. The audit will be conducted in accordance with International Standards on Auditing (ISA) published by the International Auditing and Assurance Standards Board of the International Federation of Accountants (IFAC).

123. The auditor will:

- (i) Assess a complete set of financial statements including: Balance Sheet, Income Statement, Statement on changes in equity, Cash Flow Statement, Statement on Owner's Equity, and Notes, calculations and clarifications;
- (ii) Assess the adequacy of Uzbekenergo's financial management systems and internal controls in so far as they are relevant to the preparation of the financial statements. The auditor should comment on accounting policies of Uzbekenergo, and confirm the extent to which international accounting standards has been applied;
- (iii) Confirm compliance with financial covenants contained in the legal documents for the project, and that funds provided by ADB and counterpart funds have been used following conditions of the loan and project agreements, with due attention to economy and efficiency, and only for the purpose for which the funds were provided;
- (iv) Appraise the procedures for safeguarding assets between operating, custodial, accounting and internal audit duties; ensuring that all transactions are accounted for accurately and properly; and compilation and certification of Statements of Expenditures; and

- (v) Confirm compliance of Uzbekenergo with the laws of Uzbekistan and good industry practice for procurement of goods, works and services other than for the project.

C. Minimum Qualifications Requirements

124. The audit firm shall have (i) proven audit experience on ISA and (ii) appropriate audit license in Uzbekistan. The audit firm shall have adequate staff, with appropriate professional qualifications and suitable experience, including experience in auditing the accounts of entities comparable in nature, size, and complexity to SJSC "Uzbekenergo" as well as auditing project financial statements of IFI-funded project accounts.

D. Reporting requirements

125. The auditor will prepare an audit opinion, which will be drafted using guidance and illustrative texts provided in relevant ISA which are applicable for the circumstances of the Client, indicating whether:

- a) Consolidated financial statements of SJSC "Uzbekenergo" are prepared, in accordance with the IFRS;
- b) Project financial statements on accounts of the Takhiatash Power Plant Efficiency Improvement Project are prepared, in accordance with the basis of preparation defined in the respective loan agreements signed with ADB.

126. In addition to the audit opinion, the auditor will prepare a management letter for the management of SJSC "Uzbekenergo", in which the auditor will:

- a) provide comments and observations on deficiencies in internal control (including the accounting records and systems) that the auditor has identified during the audit and that, in the auditor's professional judgment, are of sufficient importance to merit management's respective attention;
- b) make recommendation for their improvement;
- c) bring to the borrower's attention any other matters that in the auditor's professional judgment, are of sufficient importance to merit management's respective attention;
- d) bring to ADB's attention any significant matters based on the auditor's professional judgment; and
- e) include management's comments in the final management letter.

127. The audit report and management letter should be received by SJSC "Uzbekenergo" no later than six months after the end of the audited financial year. The SJSC "Uzbekenergo" in two weeks should then promptly forward two copies of these to the ADB. All reports (statements) and management letters should be submitted in English with translation into Russian in five copies.

E. Level of Effort

128. It is envisaged that the experts input needed for undertaking the external audit program will be about 2 contracts with 10 person-month each. The consultant will be expected to be in Tashkent on an intermittent basis.

F. Client's Inputs and Counterpart Personnel under Contract

129. UE will assist the consultants in data gathering and access to all internal systems and processes and personnel. UE will provide and make available to the consultants, free of charge, the following facilities, services, equipment, materials, documents and information as required by the consultants for carrying out this project:

- i) Counterpart staff/technical support.
- ii) Organizational support, assistance in arrangements for meetings and field visits and access to required data and other relevant information.

130. The consultants will be responsible for their own personal computers and other facilities for producing reports. The consultants will be responsible for translating all reports from English (prime report language) into Russian.

131. The consultants will be expected to coordinate with the Uzbekenergo, ADB and other consultants working on capacity development programs, and the contractor for MIS upgrading.

Outline Terms of Reference for Social and Gender Expert

RFP No.	ICS/Takhiatash-Uzbekenergo/005
Contract	Social and Gender Expert
Client	SJSC Uzbekenergo
Country	Uzbekistan
Project	Takhiatash Power Plant Efficiency Improvement Project
Finance source	ADB Loan [Loan No.: TBD]

A. Background

132. The objective of the Project is to improve energy efficiency of the Takhiatash thermal power plant (TPP) with the construction of two highly efficient 230-280 MW (nominal size) combined cycle gas turbine (CCGT) power units, decommissioning of inefficient existing power plant units, and capacity development. The project will contribute to increased reliable power supply and climate change mitigation in Uzbekistan. The capacity development component will help UE to develop its capacity and become a commercially bankable utility.

133. The social and gender analyses showed that the following needs should be addressed: (i) limited access of the residents and employees of Takhiatash TPP to the social services facilities (ii) absence of the laundry, dry cleaning and carpet cleaning facilities in the Takhiatash city, and (iii) lack of knowledge in the areas of energy efficiency, gender and development, and sanitary and hygiene in the communities of the project areas. A national social and gender expert will be hired to facilitate the implementation of the Gender Action Plan.

B. Scope of Work

134. The responsibilities of the social and gender specialist include but are not limited to the following:

- Conduct gender awareness training in Takhiatash TPP;
- Establish network with Women's Committee and Makhalla Advisors in Project area;
- Improve and strengthen existing sex-disaggregated statistics;
- Facilitate and monitor the planning and construction of Community Social Service Center and Dry-Cleaning, Laundry and carpet cleaning Facility;
- Organize and facilitate development of the training modules in accordance with the Project Gender Action Plan;
- Recruit local NGOs/Training Provider for the development of the training modules and conduct training on trainers in accordance with the Gender Action Plan;
- Develop monitoring tool and regular reporting system;
- Conduct regular monitoring and reporting.

C. Minimum Qualifications Requirements

135. The social and gender specialist shall have a university degree in social sciences, or related areas with additional experience in gender and development. At least 5 years professional experience is required preferably on project implementation level. A profound knowledge of the country specific needs of men and women would be of great advantage. The Consultant will report to ADB Social and gender specialist at URM.

D. Reporting requirements

136. The consultants will prepare and submit to UE and ADB required reports in both English and in Russian languages, including, but not limited to the following:

Deliverables	Estimated Date
Need Assessment Report	March 2015
Training Modules on Energy Efficiency, Gender and Development, and Sanitary and Hygiene	December 2015
Training Reports	Quarterly

137. All documents and reports are to be made available in an electronic form to UE and ADB.

E. Level of Effort

138. It is estimated that the social and gender specialist will commence in March 2015 and take 16 person-months. The consultants will work on an intermittent basis in Takhiatash from March 2015 to November 2018.

F. Period

Expression of interest September 2014
 Proposal Evaluation November - December 2014
 Contract Award January 2015
 Contract Registration March 2015
 Notice to proceed March 2015
 Contract March 2015–November 2018

G. Client's Inputs and Counterpart Personnel under Contract

139. UE will assist the consultants in data gathering and access to all internal systems and processes and personnel. UE will provide and make available to the consultants, free of charge, the following facilities, services, equipment, materials, documents and information as required by the consultants for carrying out this project:

- i) Counterpart staff/technical support.
- ii) Organizational support, assistance in arrangements for meetings and field visits and access to required data and other relevant information.

140. The consultants will be responsible for their own personal computers and other facilities for producing reports. The consultants will be responsible for translating all reports from English (prime report language) into Russian.

141. The consultants will be expected to coordinate with the Uzbekenergo, ADB and other consultants working on capacity development programs, and the contractor for MIS upgrading.

Outline Terms of Reference for Risk Profile Assessment

RFP No.	ICS/Takhiatash-Uzbekenergo/006
Contract	Risk Profile Assessment
Client	SJSC Uzbekenergo
Country	Uzbekistan
Project	Takhiatash Power Plant Efficiency Improvement Project
Finance source	ADB Loan [Loan No.: TBD]

A. Background

142. The objective of the Project is to improve energy efficiency of the Takhiatash thermal power plant (TPP) with the construction of two highly efficient 230-280 MW (nominal size) combined cycle gas turbine (CCGT) power units, decommissioning of inefficient existing power plant units, and capacity development. The project will contribute to increased reliable power supply and climate change mitigation in Uzbekistan.

143. As the executive agency of this project, Uzbekenergo (UE) needs to develop a strategy and build the capacity to become a more commercially bankable utility in the medium term. Modern management system with performance accountability needs to be introduced. The government and UE will benefit from learning and adopting the best international practices for tariff determination methodology to improve efficiency and to ensure fully cost recovery. All these measures are essential to build confidence for the potential creditors.

144. The capacity development component will help UE to develop its capacity and become a commercially bankable utility. The capacity development for corporate management includes tariff methodology study and training, and development and implementation of key performance indicators (KPI). Tariff methodology study and training will develop the skill sets 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 (KPI). A capacity development unit will be

established and it will be located within the Executive Office of UE and report to the Deputy Chairman (finance).

B. Scope of Work

145. ADB requires a risk profile assessment of Uzbekenergo by June 2017. Credit rating agency acceptable to ADB will be recruited to assess the credit worthiness of Uzbekenergo. The agency will form an independent opinion about the relative credit risk of Uzbekenergo based on Uzbekenergo's historical performance and long term economic prospects. The resulted credit rating will only be for the reference of Uzbekenergo and ADB and will not be publically disclosed.

146. The rating agency will provide a frame of reference concentrating on Uzbekistan as well as global credit implications on the power and gas markets. The assessment will be conducted in accordance with the analyst-drive approach and/or the model driven approach based on private and public information of Uzbekenergo.

147. The rating agency will:

- (i) Conduct a review of the asset quality, funding, financial performance, policies and risk management strategies of Uzbekenergo;
- (ii) Conduct a review of the business and economic environment in which Uzbekenergo operates;
- (iii) Assess accounting policies and issues of Uzbekenergo;
- (iv) Evaluate operational risks and management strategies of Uzbekenergo; and
- (v) Assess Uzbekenergo's ability and willingness to meet its financial obligations in a timely manner based on other qualitative information such as long-term corporate strategies.

C. Minimum Qualifications Requirements

148. The international consulting firm shall have proven experience in risk profile assessment and credit rating in the electricity utilities comparable in nature, size, and complexity to Uzbekenergo. Previous experience in developing countries in the region is desirable. Fluency in English is essential and Russian language competency is strongly desired.

D. Reporting requirements

Inception report..... September 2017
 Draft final report December 2017
 Final report March 2018

E. Level of Effort

149. It is envisaged that the experts input needed for undertaking the risk profile assessment will be about 6 person months. The consultant will be expected to travel to Tashkent on an intermittent basis.

F. Period

Expression of interestOctober 2016

Proposal Submission	November 2016
Proposal Evaluation	December 2016 - February 2017
Contract Award	March 2017
Contract Registration	May 2017
Notice to proceed	June 2017
Contract	June 2017 – March 2018

G. Client's Inputs and Counterpart Personnel under Contract

150. UE will assist the consultants in data gathering and access to all internal systems and processes and personnel. UE will provide and make available to the consultants, free of charge, the following facilities, services, equipment, materials, documents and information as required by the consultants for carrying out this project:

- i) Counterpart staff/technical support.
- ii) Organizational support, assistance in arrangements for workshops, meetings and field visits and access to required data, maps and other relevant information.

151. The consultants will be responsible for their own personal computers and other facilities for producing reports. The consultants will be responsible for translating all reports from English (prime report language) into Russian.

152. The consultants will be expected to coordinate with the Uzbekenergo, ADB and other consultants working on capacity development programs, and the contractor for MIS upgrading.