Project Administration Manual

Project Number: 46390 November 2013

Myanmar: Power Distribution 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.

The Ministry of Electric Power (MOEP), Yangon City Electricity Supply Board (YESB), and Electricity Supply Enterprise (ESE) are 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 MOEP, YESB, and ESE of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

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

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

Abbreviations

ABC = aerial bundled conductor

ADB = Asian Development Bank

ADF = Asian Development Fund

AFS = audited financial statements

DMF = design and monitoring framework

EA = executing agency

ESE = Electricity Supply Enterprise

FMA = financial management assessment

FMAQ = financial management assessment questionnaire

ICB = international competitive bidding

km = kilometer
kW = kilowatt
kWh = kilowatt-hour
kV = kilovolt
LV = low voltage

MOECAF = Ministry of Environmental Conservation and Forestry

MOEP = Ministry of Electric Power
MRP = Material Recovery Plan
MVA = megavolt-ampere

MW = megawatt

NCB = national competitive bidding
OAG = Office of the Auditor General
PAI = project administration instructions
PAM = project administration manual
PCBs = polychlorinated biphenyls

PIC = Project Implementation Consultant

project implementation unit PIU PMU Project Management Unit = POPs persistent organic pollutants = personal protective equipment PPE = project performance reporting PPR = QCBS quality-and-cost based selection =

RRP = report and recommendation to the President

TOR = terms of reference

UNEP = United Nations Environment Program

UNIDO = United Nations Industrial Development Organization

YESB = Yangon City Electricity Supply Board

I. PROJECT DESCRIPTION

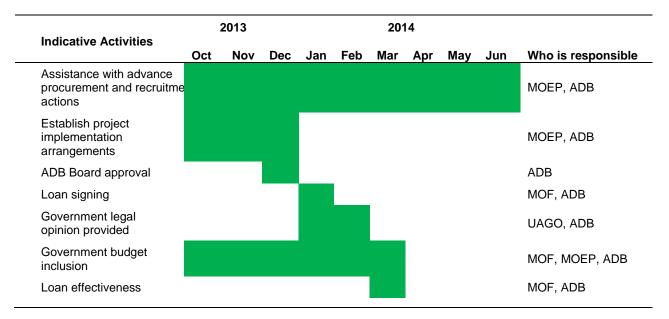
- 1. Myanmar's power sector has operated satisfactorily for many decades but, because of lack normal rehabilitation work, now suffers from overloading, poor reliability and extremely high losses. The project provides for the rehabilitation of existing run-down power distribution networks in the following four project areas:
 - (i) five townships in Yangon region: Hlaingthaya, Insein, Kamayut, Mayangone, and Mingalone;
 - (ii) four districts in Mandalay region: Kyaukse, Meikhtila, Myingyan, and Yameethin;
 - (iii) five districts in Sagaing region: Kalay, Katha, Monywa, Sagaing, and Shwebo; and
 - (iv) two townships in Magway region: Aunglan and Magway.
- 2. The scope of rehabilitation works includes:
 - (i) upgrading existing 66/11 kilovolt (kV) and 33/11 kV substations;
 - (ii) replacing existing 33 kV and 11 kV distribution lines;
 - (iii) replacing existing 11/0.4 kV transformers;
 - (iv) replacing existing bare low voltage distribution lines with more efficient aerial bundled conductor (ABC) distribution; and
 - (v) replacing existing old revenue meters with digital revenue meters.
- 3. **Impact and Outcome.** The impact will be reduced power distribution loss and improved energy efficiency. The outcome will be improved infrastructure to provide reliable and sustainable electricity to the selected townships and districts.
- 4. **Outputs.** The project outputs will be (i) rehabilitated distribution network in five townships in Yangon region, (ii) rehabilitated distribution network in four districts in Mandalay region, (iii) rehabilitated distribution network in five districts in Sagaing region, and (iv) rehabilitated distribution network in two townships in Magway region. For each project region, support to capacity building will be provided to enhance staff capability in MOEP, YESB, and ESE on rehabilitation and operation of power distribution system, procurement, and financial management during implementation. The rehabilitation works include (i) upgrading existing 66/11 kV and 33/11 kV substations, (ii) replacing existing 33 kV and 11 kV distribution lines, (iii) replacing existing 11/0.4 kV transformers, (iv) replacing existing bare low voltage distribution lines with more efficient aerial-bundled conductor distribution lines, and (v) replacing existing revenue meters with digital revenue meters.

II. IMPLEMENTATION PLANS

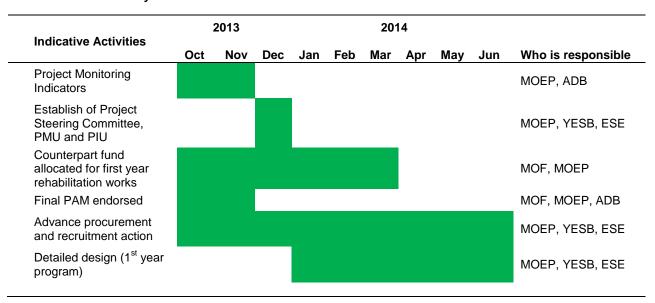
5. The project is expected to be approved in December 2013. After loan effectiveness, the project implementation period is 36 months or 3 years and loan closing date is 31 December 2018. The project is expected to be physically completed by 31 December 2016. Monitoring of project performance and outcome will be until 31 December 2018, including preparation of project completion report. The project's milestones of readiness activities and overall project implementation schedule are as follows:

A. Project Readiness Activities

ADB



Government of Myanmar



B. Overall Project Implementation Schedule

Indicative Activites	20	13		20	14			20	15			20	16				017			20	18	$\overline{}$
indicative Activites	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
A. Design and Monitoring Framework																						1
Activities with Milestones																						
1. Advance Action																						i
1.1 Recruitment of PIC completed by June 2014																				L		
1.2 Bidding documents completed by June 2014																						1
1.3 Bidding, Evaluation and Approvals completed by December 2014																				L		
2. Rehabilitation of Distribution Network in 5 Townships of Yangon City																						
2.1 Detailed Design by YESB completed by December 2015																						
2.2 Manufacture and Delivery of Goods completed by June 2016																						
2.3 Rehabilitation and installation works completed by December 2016																						
2.4 Project Implementation Supervision completed by December 2016																						
3. Rehabilitation of Distribution Network in Mandalay Region																						
3.1 Detailed Design by ESE completed by December 2015																						
3.2 Manufacture and Delivery of Goods completed by June 2016																						
3.3 Rehabilitation and installation works completed by December 2016																						
3.4 Project Implementation Supervision completed by December 2016																						
4. Rehabilitation of Distribution Network in Sagaing Region																						1
4.1 Detailed Design by ESE completed by December 2015																						1
4.2 Manufacture and Delivery of Goods completed by June 2016																				L		
4.3 Rehabilitation and installation works completed by December 2016																						
4.4 Project Implementation Supervision completed by December 2016																						
5. Rehabilitation of Distribution Network in Magwe Region																						
5.1 Detailed Design by ESE completed by December 2015																				L		
5.2 Manufacture and Delivery of Goods completed by December 2016																						1
5.3 Rehabilitation and installation works completed by December 2016																				L		
5.4 Project Implementation Supervision completed by December 2016																						
6. Capacity Building/On-the-Job Training for MOEP, YESB and ESE Counterpart Staff																						
6.1 On-the-job training for MOEP, YESB and ESE counterpart staff in power distribution operation,																						i
maintenance and rehabilitation works, and accounting and financial management, by December 2016																						
B. Management Activities																						
Procurement plan key activities to procure contract packages																						
Consultant selection procedures																						
Material recovery plan key activities																						
Annual/Mid-term review				LI		LR		LR		MTR		LR		LR								
Monitoring of project performance and outcome																						
Project completion report																						PCR

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations-Roles and Responsibilities

6. The key implementation organizations involved in the project include the Ministry of Electric Power and its Project Steering Committee, Project Management Units (PMUs) and Project Implementing Units (PIUs), as well as the Ministry of Finance. Asian Development Bank (ADB) will monitor all project implementation activities. Details of the implementation organization key roles and responsibilities are indicated in the table below:

Project Implementation Organizations	Management Roles and Responsibilities
Executing Agency Ministry of Electric Power	 Responsible for overall project implementation; Establishment of PMUs and PIUs; Timely provision of agreed counterpart funds for project activities; Quality assurance of works and services of consultants and counterpart staff; Establishing strong financial management system and submitting timely withdrawal applications (WA) to ADB, ensuring timely financial audits as per agreed timeframe and taking recommended actions are conducted; Complying with all loan covenants in the Loan Agreement; and Responsible for collection and retention of all support documents, reporting documents and annual audit report and financial statements. Recruiting and supervising consultants
Project Steering Committee	 Responsible for the overall supervision and execution of the project; Monitor and coordinate different agency activities; and Review and endorse any proposed key changes in project scope.
 Project Management Unit (PMU) in YESB 	 Finalizing survey, detailed design, bidding documents and contract awards for component 1; Monitoring and evaluation of project activities and outputs, including periodic review, preparation of review reports identifying issues and action plans; Preparing regular periodic progress reports, and project completion reports and their timely submission to ADB.
Project Management Unit (PMU) in ESE	 Finalizing survey, detailed design, bidding documents and contract awards for component 2,3,and 4; Monitoring and evaluation of project activities and outputs, including periodic review, preparation of review reports identifying issues and action plans; Preparing regular periodic progress reports, and project completion reports and their timely submission to ADB.

- Yangon City Electricity Supply Board (YESB)
- Responsible for the detailed engineering design and implementation of the rehabilitation and installation works of the distribution network in the 5 townships in Yangon City, including signing and administration of contract packages to be financed by ADB;
- > Provide counterpart staff for the project;
- Maintain project accounts for all equipment/materials delivered to YESB and record costs incurred for rehabilitation and installation works under the project;
- Preparing regular periodic progress reports and financial reports and timely submission to MOEP;
- Complying with applicable covenants in the Loan Agreement.
- Electricity Supply Enterprise (ESE)
- Responsible for the detailed engineering design and implementation of the rehabilitation and installation works in Mandalay, Sagaing, and Magway regions, including signing and administration of contract packages to be financed by ADB;
- Provide counterpart staff for the project;
- Maintain project accounts for all equipment/materials delivered to ESE and record costs incurred for rehabilitation and installation works under the project;
- Preparing regular periodic progress reports and financial reports and timely submission to MOEP; and
- Complying with applicable covenants in the Loan Agreement.
- Project Implementation Units (PIUs) within ESE project areas
- Day-to-day supervision of project implementation, including monitoring and reporting requirements as well as resolving implementation issues with the support of the PMU.
- Ministry of Finance
- Signing the Loan Agreement;
- Allocating and releasing counterpart funds;
- Endorsing to ADB the authorized staff with approved signatures for WA processing:
- Processing and submitting to ADB any request, when required, for reallocating the loan proceeds.

ADB

- Assist MOEP, YESB, and ESE and the PMU in providing timely guidance at each stage of project implementation in accordance with the agreed implementation arrangements;
- Review all the documents that require ADB approval;
- Conduct an inception mission, periodic loan review missions, a mid-term review, a completion mission for the project, and an overall project completion mission;
- Monitor and require compliance of all loan covenants:
- Timely process withdrawal applications and release

eligible funds;

Monitor and require the compliance of financial audit recommendations:

Regularly update ADB's project performance review reports with assistance of MOEP and its progress reports: and

Regularly post on ADB website the updated project information documents for public disclosure.

B. Key Persons Involved in Implementation

Executing Agency

Ministry of Electric Power Director General, Department of Electric Planning

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Email address: <u>k.maung.winn@gmail.com</u>

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Yangon City Electricity Supply

Board

Chairman

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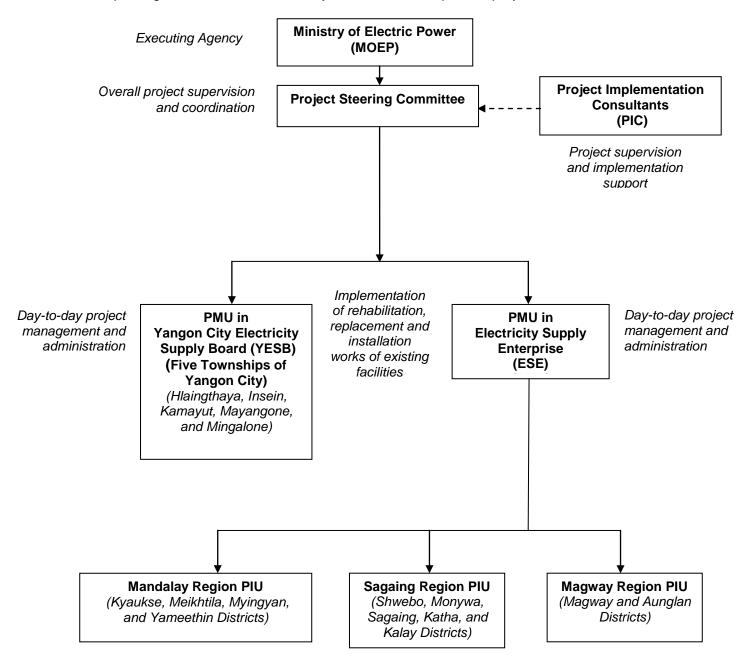
Email: jikim@adb.org

C. Project Organization Structure

- 7. The executing agency (EA) will be the Ministry of Electric Power (MOEP) and will be responsible for overall project implementation and management. A project steering committee will monitor and coordinate project implementation of two Project Management Units (PMUs).
- 8. YESB and ESE will establish each PMU which will be responsible for day-to-day implementation and preparation of progress reports, ensuring that financial and reporting

requirements are met and ADB procurement procedures followed with full coordination with project implementation units (PIUs) for three project areas for ESE for each of the regions of Mandalay, Sagaing, and Magway. The PMU will comprise three full-time counterpart staff supported by the project implementation consultants.

9. YESB and ESE will undertake the design engineering services and rehabilitation, replacement and installation works of the existing distribution facilities in their respective project areas. YESB and ESE, on behalf of MOEP, will be authorized to sign and administer the 6 contracts packages that will be financed by ADB for their respective project areas.



Note:

PMU (1 Project Director, 1 Engineer and 1 Finance Officer from YESB and ESE) PIU (1 Engineer and 1 Finance Officer from each ESE region)

IV. COSTS AND FINANCING

10. The project cost is estimated at \$73.7 million equivalent, including physical and price contingencies, financing charges during implementation, and taxes and duties. ADB will provide an amount of \$60.0 million loan from the Asian Development Fund to cover the costs of (i) equipment and materials (from Lot 1 to Lot 6); (ii) consulting services; and (iii) interest during implementation. The cost of concrete poles (Lot 7), taxes and duties, safeguard measures, and engineering services will be funded by the Government of Myanmar. The total contribution of the government is estimated at \$13.7 million equivalent. The investment plan is summarized in the following tables.

A. Detailed Cost Estimates by Expenditure Category

		K	yat in million		US			
	Item	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost	% of Total Base Cost
A.	Investment Costs ^a							
	1 Equipment and Materials							
	a. Lot 1 MV and LV Conductors and							
	Cables	23,814.0	-	23,814.0	23.0	0.0	23.0	36.5
	b. Lot 2 MV Substation Equipment	15,975.0	-	15,975.0	15.5	0.0	15.5	24.5
	c. Lot 3 Distribution Transformers	2,057.0	_	2,057.0	2.0	0.0	2.0	3.2
	d. Lot 4 Line Materials	1,962.0	_	1,962.0	1.9	0.0	1.9	3.0
	e. Lot 5 Tools and Equipment	1,589.0	_	1,589.0	1.6	0.0	1.6	2.5
	f. Lot 6 Revenue Meters	4,443.0	_	4,443.0	4.3	0.0	4.3	6.8
	g. Lot 7 Concrete Poles	-	2,297.0	2,297.0	0.0	2.2	2.2	3.5
	2 Installation	_	5,841.0	5,841.0	0.0	5.6	5.6	8.9
	3 Cost of Safeguard Measures	-	202.0	202.0	0.0	0.2	0.2	0.3
	4 Consulting and Engineering Services ^b	3,549.0	289.0	3,838.0	3.4	0.3	3.7	5.9
	5 Taxes and Duties	-	3,242.0	3,242.0	0.0	3.1	3.1	5.0
	Total Base Cost	53,388.0	11,870.0	65,258.0	51.7	11.5	63.2	100.0
В.	Contingencies	•	•	•				
	1 Physical ^c	5,339.0	1,187.0	6,526.0	5.2	1.1	6.3	10.0
	2 Price ^d	2,157.0	1,199.0	3,356.0	2.1	1.1	3.2	5.1
	Subtotal (B)	7,495.0	2,386.0	9,882.0	7.2	2.3	9.5	15.1
C.	Interest During Implementation ^e	,	•	•				
	Interest During Implementation	1,089.0	-	1,089.0	1.0	0.0	1.0	1.6
	Subtotal ©	1,089.0	-	1,089.0	1.0	0.0	1.0	1.6
Tot	al Project Cost (A+B+C)	61,973.0	14,256.0	76,229.0	60.0	13.7	73.7	116.7

^a In mid-2013 prices.

b Includes project implementation consulting services.

^c Computed at 10% for all expenditure items.

d Computed using inflation rates of 5.1% for 2014 and 2015 and 5.0% for 2016 on local currency costs, and 2.2% for 2014, 1.9% for 2015 and 1.8% for 2016 on foreign exchange costs. The exchange rate has been calculated on the basis of purchasing power parity, which assumes that the annual change in exchange rate is proportional to the ratio of local and foreign inflation indexes.

^e Interest during implementation calculated at 1%.

В. Allocation and Withdrawal of Loan Proceeds from ADF Loan

	Category	ADB ADF Loan Financing				
NI.	Mo	Amount Allocated for ADB Financing	Percentage and Basis for Withdrawal from the			
No.	Item	(SDR)	Loan Account			
1	Equipment and Materials (Lot 1–Lot 6)**	31,297,000	100% of total expenditure claimed*			
2	Consulting Services**	2,203,000	100% of total expenditure claimed*			
3	Interest Charges	648,000	100% percent of total amount due			
4	Unallocated***	4,731,000				
	Total	38,879,000				

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

** Subject to the condition for withdrawal described in paragraph 6 of Schedule 3 of the Loan Agreement.

***Maybe used for physical and price contingencies.

C. **Detailed Cost Estimates by Financier**

		ΑC)B		Government				
	Item	Amount	%	Amount	Tax	Total	%	(\$ million)	
A.	Investment Costs								
	1 Equipment and Materials ^a								
	 a. Lot 1 MV and LV Conductors and Cables 	23.0	95.0	0.0	1.2	1.2	5.0	24.2	
	b. Lot 2 MV Substation Equipment	15.5	95.7	0.0	0.7	0.7	4.3	16.2	
	c. Lot 3 Distribution Transformers	2.0	95.2	0.0	0.1	0.1	4.8	2.1	
	d. Lot 4 Line Materials	1.9	95.0	0.0	0.1	0.1	5.0	2.0	
	e. Lot 5 Tools and Equipment	1.6	94.1	0.0	0.1	0.1	5.9	1.7	
	f. Lot 6 Revenue Meters	4.3	95.6	0.0	0.2	0.2	4.4	4.5	
	g. Lot 7 Concrete Poles	0.0	0.0	2.2	0.0	2.2	100.0	2.2	
	2 Installation	0.0	0.0	5.6	0.0	5.6	100.0	5.6	
	3 Cost of Safeguard Measures	0.0	0.0	0.2	0.0	0.2	100.0	0.2	
	4 Consulting and Engineering Services ^b								
	a. Consulting Services	3.4	82.9	0.0	0.7	0.7	17.1	4.1	
	b. Engineering Services	0.0	0.0	0.3	0.0	0.3	100.0	0.3	
	Subtotal (A) ^c	51.7	81.9	8.3	3.1	11.4	18.1	63.1	
В.	Contingencies ^d	7.3	76.0	2.3	0.0	2.3	24.0	9.6	
C.	Interest During Implementation ^e	1.0	100.0	0.0	0.0	0.0	0.0	1.0	
	Total Project Cost (A+B+C)	60.0		10.6	3.1	13.7		73.7	
	% of Total Project Cost	81.	4%		1	8.6%		100.00%	

^a Includes the taxes and duties of \$3.1 million equivalent to be financed by the government.

^b Consulting services will be financed by ADB and engineering services will be funded by YESB and ESE.

^c In mid-2013 prices.

^d Physical contingencies computed at 10% for all expenditure items. Price contingencies computed using inflation rates of 5.1% for 2014, 2015 and 5.0% for 2016 on local currency costs, and 2.2% for 2014, 1.9% for 2015 and 1.8% for 2016 on foreign exchange costs. The exchange rate has been calculated on the basis of purchasing power parity, which assumes that the annual change in exchange rate is proportional to the ratio of local and foreign inflation indexes.

^e Interest during implementation calculated at 1%.

D. Detailed Cost Estimates by Components

		Total Cost	Yang	on	Manda	lay	Magw	ay	Sagai	ng
Ite	em	(\$ million)	Amount	%	Amount	%	Amount	%	Amount	%
A.	Investment Costs ^a	,								
	1 Equipment and Materials									
	a. Lot 1 MV and LV Conductors and									
	Cables	23.0	9.8	42.6	5.8	25.3	4.0	17.4	3.4	14.7
	 b. Lot 2 MV Substation Equipment 	15.5	13.1	84.5	1.6	10.6	0.4	2.8	0.3	2.1
	c. Lot 3 Distribution Transformers	2.0	0.4	19.7	0.5	24.4	0.9	43.1	0.3	12.8
	d. Lot 4 Line Materials	1.9	0.4	22.4	0.3	18.2	0.3	16.8	8.0	42.6
	e. Lot 5 Tools and Equipment	1.6	0.5	34.9	0.4	28.4	0.3	18.3	0.3	18.3
	f. Lot 6 Revenue Meters	4.3	0.0	0.0	4.1	94.2	0.2	3.6	0.1	2.2
	g. Lot 7 Concrete Poles	2.2	0.3	13.3	0.0	1.0	1.0	44.3	0.9	41.4
	2 Installation	5.6	2.1	38.0	1.3	22.6	1.0	18.7	1.2	20.7
	3 Cost of Safeguards	0.2	0.1	47.6	0.1	25.1	0.0	14.4	0.0	12.9
	4 Consulting and Engineering Services	3.7	1.8	47.6	0.9	25.1	0.5	14.4	0.5	12.9
	5 Taxes and Duties	3.1	1.6	49.6	8.0	26.2	0.4	13.0	0.4	11.2
	Subtotal (A)	63.2	30.1	47.7	15.9	25.2	9.1	14.4	8.1	12.8
B.	Contingencies									
	1 Physical ^b	6.3	3.0	47.7	1.6	25.2	0.9	14.4	8.0	12.8
	2 Price ^c	3.2	1.5	45.5	8.0	24.1	0.5	15.8	0.5	14.6
	Subtotal (B)	9.5	4.5	46.9	2.4	24.8	1.4	14.8	1.3	13.4
C.	Interest During Implementation ^d									
	1 Interest During Implementation	1.0	0.5	50.1	0.3	26.4	0.1	12.7	0.1	10.8
	2 Commitment Charges	0.0	0.0	50.1	0.0	26.4	0.0	12.7	0.0	10.8
	Subtotal (C)	1.0	0.5	50.1	0.3	26.4	0.1	12.7	0.1	10.8
To	otal Project Cost(Á+B+C)	73.7	35.1	47.6	18.5	25.1	10.6	14.4	9.5	12.9
	In mid-2013 prices									-

In mid-2013 prices.

Physical contingencies computed at 10% for all expenditure items. Price contingencies computed using inflation rates of 5.1% for 2014, 2015 and 5.0% for 2016 on local currency costs, and 2.2% for 2014, 1.9% for 2015 and 1.8% for 2016 on foreign exchange costs. The exchange rate has been calculated on the basis of purchasing power parity, which assumes that the annual change in exchange rate is proportional to the ratio of local and foreign inflation indexes.

c Interest during implementation calculated at 1%.

E. Detailed Cost Estimates by Outputs

Item		Amount ^a
Α.	Base Cost ^b	
	1. Yangon	30.1
	2. Mandalay	15.9
	3. Magway	9.1
	4. Sagaing	8.1
	Subtotal (A)	63.2
B.	Contingencies ^c	9.5
	1. Physical	6.3
	2. Price	3.2
C.	Interest During Implementation ^d	1.0
	Total (A+B+C)	73.7

^a Includes taxes and duties of \$3.1 million equivalent to be financed by the government.

b In mid-2013 prices.

Physical contingencies computed at the rate of 10%. Price contingencies computed using inflation rates of 5.1% for 2014 and 2015, and 5.0% for 2016 on local currency costs; and 2.2% for 2014, 1.9% for 2015 and 1.8% for 2016 on foreign exchange costs. The exchange rate has been calculated on the basis of purchasing power parity, which assumes that the annual change in exchange rate is proportional to the ratio of local and foreign inflation indexes.

Interest during implementation calculated at 1%.

F. Detailed Cost Estimates by Year

		(\$ million)								
	Item	Total Cost	2014	2015	2016					
Α.	Investment Costs									
	1 Equipment and Materials									
	a. Lot 1 MV and LV Conductors and Cables									
		23.0	6.9	13.8	2.3					
	 b. Lot 2 MV Substation Equipment 	15.5	4.6	9.3	1.5					
	 c. Lot 3 Distribution Transformers 	2.0	0.6	1.2	0.2					
	d. Lot 4 Line Materials	1.9	0.6	1.1	0.2					
	e. Lot 5 Tools and Equipment	1.6	1.4	0.2	0.0					
	f. Lot 6 Revenue Meters	4.3	1.3	2.6	0.4					
	g. Lot 7 Concrete Poles	2.2	0.9	1.1	0.2					
	2 Installation	5.6	0.6	3.9	1.1					
	3 Cost of safeguard measures	0.2	0.2	0.0	0.0					
	4 Consulting and Engineering Services	3.7	1.9	1.1	0.7					
	5 Taxes and Duties	3.1	1.1	1.6	0.4					
	Subtotal (A) ^a	63.2	20.1	36.0	7.1					
B.	Contingencies (b) ^b	9.5	2.5	5.6	1.4					
C.	Interest During Implementation ^c	1.0	0.1	0.4	0.6					
	Total Project Costs(A+B+C)	73.7	22.7	42.0	9.1					
	% of Total Project Cost	100.0%	30.8%	56.9%	12.3%					

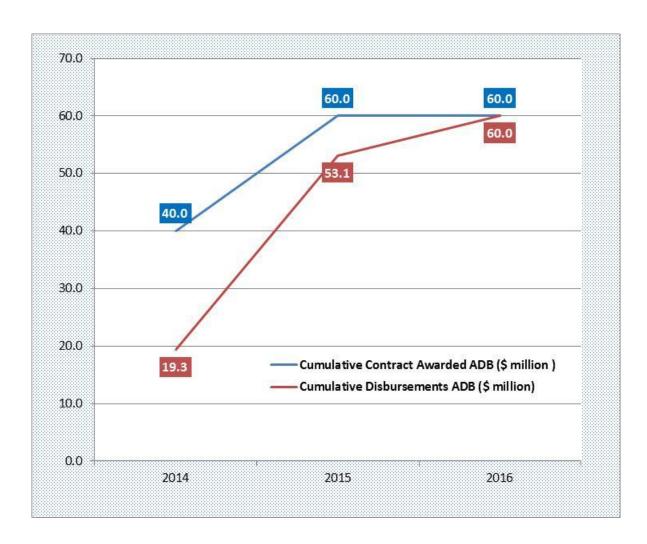
a In mid-2013 prices.

Physical contingencies computed at 10% for all expenditure items. Price contingencies computed using inflation rates of 5.1% for 2014, 2015 and 5.0% for 2016 on local currency costs, and 2.2% for 2014, 1.9% for 2015 and 1.8% for 2016 on foreign exchange costs. The exchange rate has been calculated on the basis of purchasing power parity, which assumes that the annual change in exchange rate is proportional to the ratio of local and foreign inflation indexes.

^c Interest during implementation calculated at 1%.

G. Contract and Disbursement S-curve

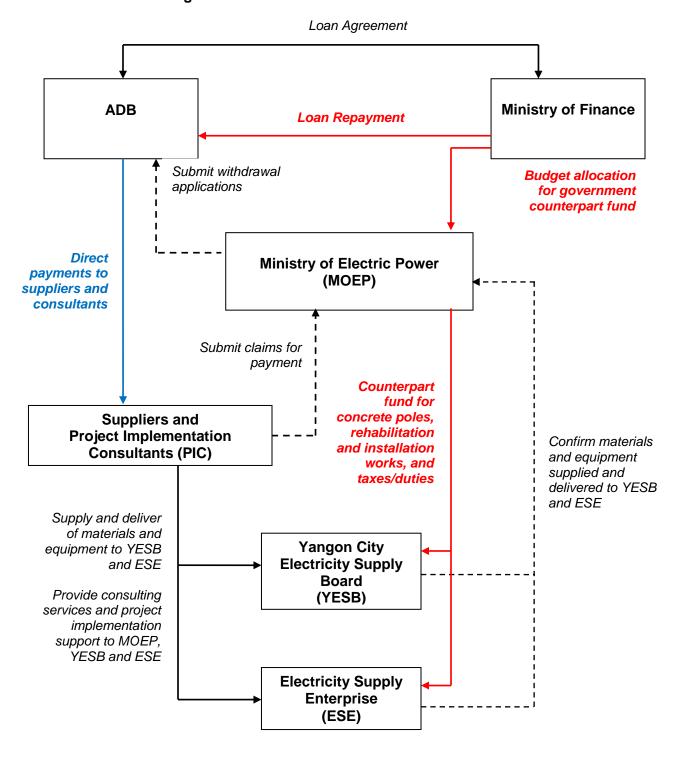
11. The graph below shows the contract awards and disbursement projections over the implementation period for the Project.



Contract Awards and Cumulative Disbursement

	<u>2014</u>	<u>2015</u>	<u>2016</u>
Cumulative Contract Awarded ADB (\$ million)	40.0	60.0	60.0
Disbursements	19.3	33.8	6.9
Cumulative Disbursements ADB (\$ million)	19.3	53.1	60.0

H. Fund Flow Diagram



Legend:

ADB loan fund flow

Government counterpart fund flow / loan repayment

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

- 12. A financial management assessment (FMA) on Myanmar's power sector agencies was conducted under S-CDTA 8216-MYA¹ over the period January-July 2013. The FMA was the first such review conducted by the ADB in Myanmar, and covered all power sector institutions which could be candidates for any possible ADB assistance in the first phase of ADB lending operations to the power sector in Myanmar. The collection of information from the power sector agencies, including YESB and ESE, was guided by the Financial Management Assessment Questionnaire (FMAQ) that was discussed with agency staff. The initial findings of the FMAQs were further discussed with the relevant officials within the Government of Myanmar to confirm their validity.
- 13. Given the capacity and capability constraints that have been identified through the FMA, it is apparent that building appropriate capacity and capabilities within YESB and ESE will be time consuming, and can only be achieved on a longer term basis. Therefore, as an interim measure during this transitional phase, the project will need to be implemented through a ring-fenced Project Management Unit (PMU)/Project Implementation Unit (PIU) concept. Setting up each PMU within YESB and ESE under the MOEP with PIUs at ESE for each region at agency level will help develop capacity within MOEP and the respective agencies. This option has been discussed and agreed on with MOEP.
- 14. The PMU/PIU staff in the agencies will be supported by well-qualified international and domestic financial management consultants, and will be supported by appropriate computer hardware and software applications. Each PMU will be responsible for day-to-day implementation and preparation of progress reports, ensuring that financial and reporting requirements are met and ADB procurement procedures followed with full coordination with project implementation units (PIUs) for three regions of ESE: Each PMU will comprise three full-time counterpart staff supported by the project implementation consultants (PIC). PIU comprises a distribution engineer and a finance expert from YESB and each ESE region.
- 15. **Staff.** The FMA identified that while the staff of YESB and ESE are adequately qualified, they lack adequate knowledge of ADB financial management policies and procedures. Under S-CDTA 8216-MYA, an awareness program targeted towards relevant staff of the power sector agencies, including YESB and ESE, is to be conducted in early 2014.
- 16. **Accounting policies and procedures.** YESB and ESE prepare financial statements based on accrual basis, and according to the Office of the Auditor General, both institutions follow the International Public Sector Accounting Standards (IPSAS). YESB and ESE use accounting manuals which were issued in the 1950's and 1960's, are outdated and in urgent need of updating to bring it in line with international best practices. In addition to the manuals mentioned above, there is also a set of government financial regulations which government agencies are obliged to follow.
- 17. **Accounting/Financial information system.** YESB and ESE have very low levels of computerization in all areas, including electricity billing activity, financial transaction processing and financial reporting. In terms of electricity billing activity, only 44% of ESE's 1.6 million

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¹ ADB. 2012. Technical Assistance to the Republic of the Union of Myanmar for Financial Management Assessment of Energy Sector. Manila.

customers and 80% of YESB's 960,000 customers receive computerized bills, with all other bills still being processed manually. YESB recently commissioned a local computer software provider to assist them in computerizing their financial accounting transactions; however, this will take some time to be implemented. ESE has low levels of computerization in all areas but a capital city of states and regions, and big city have computer billing system. So, we would like to improve very low levels of computerization in all areas.

- 18. **Internal control systems.** The internal control systems YESB and ESE generally provide for job segregation and authorization, management of cash and bank, management of bills, and accounting supervision to strengthen the internal control and management of funds.
- 19. **Budgeting and variance analysis.** YESB and ESE have sound budgeting formulation processes at the beginning of the year, as budgets are well prepared led in all cases by senior management, and are approved in a timely manner. Once the budgets are activated, however, the monitoring systems utilized appear to be weak. Variance analyses are prepared on a monthly basis, but are done in a very simplistic and ineffective manner, and YESB and ESE are not using these as a meaningful management tool. Part of the problem is related to the lack of computerization, as without the aid of electronic processing, it is very difficult to produce meaningful financial reports which can be used as a management tool.
- 20. **Safeguards over assets.** The financial departments of YESB and ESE take physical inventories and examine fixed assets and stocks, together with other departments, at least once a year. Any discrepancy identified between the physical count and the records is brought to the attention of the Executive Committee of MOEP for ESE and to the Board of Directors of YESB, who take appropriate action in accordance with the government regulations. It was also noted that the agencies do not cover all assets with comprehensive insurance for damages and theft. Only motor vehicles are insured, while the rest of the assets are uninsured.
- 21. **Internal audit.** While YESB and ESE have Internal Audit Units, they are inadequately staffed, and staffs have little or no training and only limited guidance, by way of an internal audit manual or guidelines. Both institutions have unsatisfactory reporting structures, with the Head of the Internal Audit Unit reporting to the Finance Director, rather than to the highest level of the agency's management as is deemed good practice to ensure independence.
- 22. **External audit.** The Office of the Auditor General (OAG) audits all government accounts, including YESB and ESE. Based on feedback from YESB and ESE, there was some delay in the issuance of the audit reports. According to OAG, whilst the agencies had indeed submitted their financial statements by the due date, the financial reports were not in a state that enabled the OAG to audit the reports. It took several further months of discussions between the OAG and the agencies concerned to get the Financial Reports in a state when they could be audited. OAG confirmed that the International Standards of Supreme Audit Institutions (ISSAI) are used for all auditing by the OAG and private sector auditors in Myanmar.

B. Disbursement

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23. The Loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2012, as amended from time to time),² and detailed arrangements agreed upon between the government and ADB. Pursuant to ADB's *Safeguard Policy Statement* (2009)

² Available at: http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf

- (SPS),³ 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.
- 24. Payments for goods and consulting services will be disbursed by ADB through commitment and direct payment procedures as applicable, and should be certified by the relevant PMU Project Director based on the payment terms in the contracts. Each PMU, through MOEP, will be responsible for (i) preparing disbursement projections; (ii) requesting budgetary allocations for counterpart funds; (iii) collecting supporting documents; and (iv) preparing and sending withdrawal applications to ADB. Each withdrawal application must include the claim or invoice from the supplier or consultant and approved by the borrower's authorized representative.
- 25. Before the submission of the first withdrawal application, MOF 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 EA is encouraged to claim to ADB through reimbursement procedure for individual payments below this amount. ADB reserves the right not to accept withdrawal applications below the minimum amount.

C. Accounting

26. MOEP will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project. MOEP 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.

D. Auditing

- 27. MOEP will cause the detailed 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 project financial statements will be submitted in the English language to ADB within six months of the end of the fiscal year by MOEP.
- 28. MOEP will also cause YESB's and ESE's 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 YESB and ESE financial statements, together with the auditors' report and management letter, will be submitted in the English language to ADB within 6 months from the end of each fiscal year.
- 29. The annual audit report for the project financial statements 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 proceeds were used only for the purposes of the project or not; and (iii) the level of **c**ompliance for each financial covenant contained in the legal agreement for the project.

³ Available at: http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf

- 30. 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.
- 31. The government, MOEP, YESB, and ESE 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.⁴ ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower), 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.
- 32. 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)⁵. 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. Advance Action for Procurement and Consultant Recruitment

- 33. All advance action for procurement and consultant recruitment will be undertaken in conformity with ADB's *Procurement Guidelines* (2013, as amended from time to time) (ADB's *Procurement Guidelines*)⁶ and ADB's *Guidelines on the Use of Consultants by the Asian Development Bank and its Borrowers* (2013, as amended from time to time).⁷ The issuance of invitations to bid under advance action will be subject to ADB approval. The borrower, MOEP, YESB, and ESE have been advised that approval of advance action for procurement and consultant recruitment does not commit ADB to finance the project.
- 34. **Advance Action.** The project involves procurement of six ICB packages for supply of goods and recruitment of a consulting firm for project implementation using quality-and cost-based selection (QCBS) using a standard quality-cost ratio of 90:10. It is expected that preparation of tender documents to procure materials and equipment and recruitment of the project implementation consultant will commence in the 4th quarter of 2013. The government will finance the procurement of concrete poles and rehabilitation and installation works using counterpart funds.

• When audited project financial statements are <u>not received by the due date</u>, 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.

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⁴ ADB Policy on delayed submission of audited project financial statements:

When audited project financial statements <u>have not been received within 6 months after the due date</u>, 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 <u>have not been received within 12 months after the due date</u>, ADB may suspend the loan.

⁵ Available at http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications.

⁶ Available at: http://www.adb.org/Documents/Guidelines/Procurement/Guidelines-Procurement.pdf

Available at: http://www.adb.org/Documents/Guidelines/Consulting/Guidelines-Consultants.pdf

B. Procurement of Goods, Works and Consulting Services

- 35. All procurement of goods under the ADB financing will be undertaken in accordance with ADB's *Procurement Guidelines* and the procurement plan for the project.
- 36. To ensure competitive bidding, international competitive bidding (ICB) contract packages will be adopted. ICB will be used for goods over \$500,000. ADB's prior review procedures will be followed. The MOEP agreed to include the relevant sections of ADB's Anticorruption Policy (1998) in all bidding and contractual documents. Concrete poles will be financed using government counterpart funds and will follow the government's procurement guidelines. Rehabilitation, replacement, and installation works will be undertaken by YESB and ESE. Six (6) packages for supply of goods will be tendered using ICB procedures and each package has two contracts for YESB and ESE respectively. YESB and ESE, on behalf of MOEP, will be authorized to sign and administer the 6 contract packages that will be financed by ADB for their respective project areas. The major BOQ items are summarized in the table below. The suppliers will be responsible for the warranty period of supplied equipment and materials. YESB and ESE will be responsible for installation and commissioning of supplied equipment and materials.

Major Items		Yangon	Mandalay	Magway	Sagaing	Total
66 kV S/S	No	4	2	1		7
33 kV S/S	No	4	20		3	27
33 kV Line	km			7		7
11 kV Line	km	105		44	11	160
0.4 kV ABC Cable	km	229	228	127	80	664
11/0.4 kV Transformers	No	36	71	107	33	247
Revenue Meters	No	-	55,000	1,937	1,200	58,137
Customers in Project Areas	No	167,379	127,910	29,116	156,199	480,604

- 37. Manufacture of ICB procured goods and equipment will commence immediately following contract signing and setting up letter of credit/commitment letter. The tools and safety equipment (Package 5) are expected to be most off-the-shelf items so receipt on site should be one of the first consignments to arrive. The power transformers, HV switchgear and other items (Package 2) will have the longest lead and manufacture times of up to 12 months and will be some of the last equipment to arrive. Manufacture times of other equipment should vary between 6 and 9 months. The BOQ of each package will provide for separate delivery to each of the four Project areas, with delivery to be simultaneous so that construction can start in each area at the same time. For packages where there is a large volume of equipment, such as conductors, revenue meters and concrete poles, multiple deliveries may be made on a regular basis as agreed during contract negotiations.
- 38. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages is in Section C. The plan will then be reviewed annually thereafter.
- 39. The project implementation consultants (PIC) will be recruited according to ADB's *Guidelines on the Use of Consultants*.⁸ The terms of reference for the PIC are outlined in Section D. The PIC will be supervised by MOEP and the Project Steering Committee. Detailed design will be undertaken by YESB and ESE.

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⁸ 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/

40. An estimated 214 person-months (64 international, 150 national) of consulting services are required to (i) facilitate project management and implementation, and (ii) strengthen the institutional and operational capacity of the executing agency. A consulting firm will be engaged using QCBS with a ratio of 90:10 due to the greater-than-normal importance of the quality of the implementation services for this project.

C. Procurement Plan (Draft)

Basic Data					
Project Name: Power Distribution Improvement Project					
Country: Myanmar	Executing Agency: Ministry of Electric Power (MOEP)				
Loan Amount: \$60 million	Loan (Grant) Number:				
Date of First Procurement Plan: 24 October 2013	Date of this Procurement Plan: 8 November 2013				

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

1. Project Procurement Thresholds

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

Procurement of Goods and Works				
Method Threshold				
International Competitive Bidding for Goods	\$500,000 and above			

2. ADB Prior or Post Review

42. Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the project.

Procurement Method	Prior or Post	Comments
Procurement of Goods and Works		
ICB Goods	Prior	
Recruitment of Consulting Firms		
Quality- and Cost-Based Selection (QCBS)	Prior	

3. Goods and Works Contracts Estimated to Cost More Than \$500,000

43. The following table lists goods and works contracts for which procurement activity is either ongoing or expected to commence within the next 18 months. Each package will have two contracts which will be signed by YESB for component 1 and ESE for component 2, 3, and 4.

General Description	Estimated Contract Value (\$ million)	Procurement Method	Prequalification of Bidders (y/n)	Advertisement Date (quarter/year)	Comments
Package 1 MV and LV Conductors and Cables	23.048	ICB	N	2Q/2014	to be financed by ADB

Package 2 MV Substation Equipment	15.461	ICB	N	2Q/2014	to be financed by ADB
Package 3 Distribution Transformers	1.991	ICB	N	2Q/2014	to be financed by ADB
Package 4 Line Materials	1.899	ICB	N	2Q/2014	to be financed by ADB
Package 5 Tools and Equipment	1.572	ICB	N	2Q/2014	to be financed by ADB
Package 6 Revenue Meters	4.300	ICB	N	2Q/2014	to be financed by ADB

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

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

General Description	Estimated Contract Value (\$ million)	Recruitment Method	Advertisement Date (quarter/year)	International or National Assignment	Comments
Project Implementation Consultant (PIC)	3.446	QCBS 90:10	1Q/2014	International and National	to be financed by ADB

B. Indicative List of Packages Required Under the Project

45. The following table provides an indicative list of all procurement (goods, works and consulting services) over the life of the project. Contracts financed by the Borrower and others should also be indicated, with an appropriate notation in the comments section.

General Description	Estimated Contract Value (\$ million)	Estimated Number of Contracts	Procurement Method	Domestic Preference Applicable	Comments
Goods					
Package 1 MV and LV Conductors and Cables	23.048	1	ICB	15% Method B	to be financed by ADB
Package 2 MV Substation Equipment	15.461	1	ICB	15% Method B	to be financed by ADB
Package 3 Distribution Transformers	1.991	1	ICB	15% Method B	to be financed by ADB
Package 4 Line Materials	1.899	1	ICB	15% Method B	to be financed by ADB

Package 5 Tools and Equipment	1.572	1	ICB	15% Method B	to be financed by ADB
Package 6 Revenue Meters	4.300	1	ICB	15% Method B	to be financed by ADB
Package 7A Concrete Poles for Yangon	0.296	1	N/A	N/A	to be financed by the government
Package 7B Concrete Poles for Magway	0.987	1	N/A	N/A	to be financed by the government
Package 7C Concrete Poles for Mandalay and Sagaing	2.424	1	N/A	N/A	to be financed by the government
<u>Works</u>					
Rehabilitation, replacement and installation works	5.601	N/A	To be undertaken by YESB and ESE	N/A	to be financed by the government
Consulting Services			202		
Project Implementation Consultant (PIC)	3.446	1	QCBS 90:10 both International and National	Full Technical Proposal	to be financed by ADB
Engineering Services	0.281	N/A	To be undertaken by YESB and ESE	N/A	to be financed by the government

Packaging of 6 ICB Procurement for Goods

Contract Package for Goods

Procurement will be undertaken by MOEP

Contracts will be signed by YESB and ESE for respective project areas and Suppliers

Common for all packages

Technical Specifications Drawings (if applicable)

Note: Under each contract package for supply of goods, there will be separate schedule of supply and price schedules for each of the project areas

Schedule of Supply for YESB

- 1. List of Goods and Related Services
- 2. Delivery and Completion Schedules
- 3. Price Schedules

Schedule of Supply for ESE Mandalay Region

- 1. List of Goods and Related Services
- 2. Delivery and Completion Schedules
- 3. Price Schedules

Schedule of Supply for ESE Sagaing Region

- 1. List of Goods and Related Services
- 2. Delivery and Completion Schedules
- 3. Price Schedules

Schedule of Supply for ESE Magway Region

- 1. List of Goods and Related Services
- 2. Delivery and Completion Schedules
- 3. Price Schedules

D. Consultants' Terms of Reference

- 46. The outline terms of reference for the project implementation consultants (PIC) are provided below:
- 47. Project implementation consultants will be engaged to assist MOEP, YESB and ESE with the implementation of the project. The PIC will be required during implementation to assist MOEP, YESB and ESE with a review of the detailed engineering design(s), procurement implementation, supervision of financial management and reporting, final testing and commissioning of the works, social & environmental planning, and overall project implementation and monitoring.⁹
- 48. The implementation consulting team will require the services of multidisciplinary team of international (64 person-months) and national (150 person-months) consultants. The consultancy firm will be responsible for the timely delivery of the output requirements.

Positions	Number	Person-Months
International	5	64
Distribution Engineer - Team leader	1	30
Substation Engineer	1	9
Civil Engineer	1	4
Procurement Specialist	1	9
Financial Specialist	1	12
National	5	150
Distribution Engineer	4	120
Financial Specialist	1	30
Total	10	214

- 49. The full-time team leader will be based in the MOEP and will visit project areas on a regular basis. The other international experts will work on intermittent basis and will visit project areas as required. For national experts, there will be one distribution engineer assigned and based in each of the four project areas; and the financial specialist will operate the same as the team leader.
 - **1. Team Leader/Distribution Engineer** (international, 30 person-months; national, 120 person-months)
- 50. The international distribution engineer/team leader will coordinate effectively with MOEP, YESB, and ESE in accordance with established guidelines and procedures. He/she ensures that implementation tasks and responsibilities are carried out on time, within budget, and will be responsible for overall managing project implementation. The national distribution engineers will assist international distribution engineer/team leader in undertaking the following tasks:
 - (i) oversee the assignment and the consultant team, and act as the team's point of contact with MOEP and other stakeholders;
 - (ii) review a detailed engineering & detailed design of the power distribution rehabilitation for the immediate project implementation;
 - (iii) assist YESB and ESE to confirm the technical specifications for concrete poles, power transformers, conductors including ABC and miscellaneous MV/LV distribution materials and equipment;

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⁹ The installation, testing, and commissioning of the works will be undertaken by YESB and ESE.

- (iv) develop and implement applicable procedures required to ensure adequate control of the manufacturing, factory tests, delivery, and acceptance of the materials and equipment;
- (v) witness materials acceptance tests especially concrete poles and power transformer before delivery, commissioning, guarantee, and assist YESB and ESE in taking over the materials from suppliers;
- (vi) assist YESB and ESE with providing guidance for the material inventory, construction supervision, and final tests & commissioning of the works;
- (vii) assist MOEP with the identification of any problems arising during the project including problems related to environment and social safeguards and provide recommendations for mitigating any problems or issues;
- (viii) assist MOEP, YESB and ESE with the procurement implementation, supervision of construction, final testing and commissioning of the works, social and environmental implementation and monitoring;
- (ix) in coordination with YESB and ESE, provide the power system loss program. The program includes the system loss analysis, technical and non-technical strategies for loss reduction and the least cost solutions for Myanmar power distribution network;
- (x) review of hazard evaluation and safety procedures in project sites and provide MOEP, YESB, and ESE with training on use of personal protective equipment (PPE), occupational health and safety to workers and safety of nearby communities:
- (xi) assist to develop Material Recovery Plan (MRP) for replaced materials in each identified project area, the MRP consists of (i) types and volumes of materials to be replaced, (ii) recyclable and non-recyclable materials, (iii) current practices of storage, recycling and disposal, (iv) proposed collection, storage, recovery and disposal measures, (v) list of reputable recycling service providers, if any, and (vi) monitoring and reporting;
- (xii) in consultation with procurement specialist, assist MOEP with prepare the procurement documents for the project in accordance with ADB's *Procurement Guidelines* (2013, as amended from time to time):
- (xiii) assist MOEP with the monitoring and evaluation of the material and equipment;
- (xiv) provide on the job training in terms of project management and monitoring, planning and procurement, develop a technicians training program and operation & maintenance manuals for power equipment, transfer of knowledge and skills, and develop staff capability for MOEP, YESB, and ESE staff; and
- (xv) assist MOEP with preparing project progress report (including environmental safeguards), completion report (including technical and financial) and other necessary reports.

2. Substation Engineer (international, 9 person-months)

- 51. The international substation specialist, under the supervision and coordination of the team leader, will ensure that the project outcomes are achieved within the specified time. The substation engineer will undertake following tasks:
 - (i) assist YESB and ESE with undertaking the detailed design of the installation of substation equipment and system and ensure that they meet international best practice;

- (ii) assist YESB and ESE to review and confirm the commissioning test reports and operation maintenance manual of the substation equipment submitted by suppliers;
- (iii) supervise constructions to ensure that installation of all equipment comply with international standards including protective relay coordination, power transformers, circuit breakers, conductors, insulators, earth wire, grounding system and insulation coordination;
- (iv) for each subproject, provide for YESB and ESE with detailed safety procedures and measures during the rehabilitation works and energizing installed HV substation equipment;
- (v) provide advice to the team leader in the event that the technical findings require an amendment to design and assist with alternative designs and reasonable cost estimates for any variations resulting from any such design amendments;
- (vi) assist in strengthening the operational and technical capability by undertaking the necessary training for the Myanmar national staff in technical assessment procedure and techniques, construction supervision and monitoring, and reporting;
- (vii) provide on the job training on substation equipment installation, transfer of knowledge and skills, and develop staff capability in handling the substation operation and monitoring; and
- (viii) prepare progress reports and a completion report as required by the team leader.

3. Civil Engineer (international, 4 person-months)

- 52. The international civil engineer will work under the team leader and ensure that the project outcomes are achieved within the specified time and undertake following tasks:
 - (i) assist YESB and ESE with undertaking the detailed design of all civil and structural systems for the sub-projects and ensure that they meet international best practice. The designs shall be suitable for conditions at the sub-project sites and shall allow for any limitations imposed by construction in the site locations;
 - (ii) review civil aspects of contractor's drawings as required;
 - (iii) assist YESB and ESE with reconfirming that the local manufacture of concrete poles meets specified project requirements in accordance with established international practice;
 - (iv) assist to witness routine and type testing of local manufacture of concrete poles;
 - (v) provide high level advice to the team leader of YESB and ESE regarding civil aspects of management and technical issues;
 - (vi) provide skilled input to the civil aspects of design and documentation of the various sub-projects including assessment of bids, selection of equipment and recommendation for award of contract;
 - (vii) assist in the civil aspects of supervision of construction and commissioning;
 - (viii) follow the procurement processes as detailed in the ADB guidelines in all respects;
 - (ix) assist in strengthening the operational and technical capability by undertaking the necessary training for the Myanmar national staff in technical assessment procedure and techniques, construction supervision and monitoring, and reporting:
 - (x) provide advice to the team leader in the event that the geotechnical findings require an amendment to design and assist with alternative designs and

- reasonable cost estimates for any variations resulting from any such design amendments;
- (xi) provide on the job training and develop staff capability on civil works construction and transfer of knowledge and skills;
- (xii) assist YESB and ESE with the development of maintenance regimes and strategies; and
- (xiii) prepare progress reports and a completion report as required by the team leader.

4. Procurement Specialist (international, 9 person-months)

- 53. The international procurement specialist will work under the team leader and ensure that the project outcomes are achieved within the specified time and will develop bid documents in accordance with ADB Procurement Guidelines (2013, as amended from time to time) for each of the procurement packages, and oversee the procurement process until the award of contract and monitoring of contracts. The procurement specialist will undertake following tasks:
 - (i) consolidate all information needed for procurement activities for all contract packages to be tendered under the project;
 - (ii) assist MOEP with preparing the technical specifications, prequalification, if any, and bidding documents for power distribution improvement project following ADB Procurement Guidelines (2013, as amended from time to time) and using standard bidding documents and guidelines;
 - (iii) provide advice and assist MOEP during pre-bid meetings and in the preparation of the minutes and addendum to the bidding documents, as necessary;
 - (iv) assist MOEP with facilitating the evaluation of bid proposals and preparing bid evaluation reports, including recommendations for contract awards;
 - (v) assist MOEP preparing the necessary documentation for contract signing, mobilization, and withdrawal applications;
 - (vi) monitor contract implementation including review of contract variations;
 - (vii) provide on the job training and develop staff capability on procurement management and train counterpart MOEP, YESB and ESE staff in all aspects of procurement processes and procedures, particularly in the preparation of bidding documents following ADB Procurement Guidelines;
 - (viii) ADB's standard bidding documents, bid evaluation, and contract implementation; and
 - (ix) prepare progress reports and a completion report as required by the team leader.
 - **5. Financial Specialist** (international, 12 person-months; national, 30 personmonths)
- 54. The international financial specialist will work under the team leader and ensure that the project outcomes are achieved within the specified time, and will oversee the financial reporting and monitoring of the project in accordance with the Government of Myanmar's financial policies, guidelines and procedures as well as ADB guidelines and procedures. The finance specialists will have recognized professional accountancy qualifications (i.e. CPA, CA) and should have demonstrated suitable experience. The national financial specialist will assist the international financial specialist in undertaking the following tasks, among others:
 - (i) determine the necessary hardware and software requirements for financial reporting and monitoring, and assist MOEP in setting up the identified system;

- (ii) assist MOEP in establishing and maintaining the different budgets for the project ensuring the project is included in the Government of Myanmar's Budget of the MOEP leading to financial commitments in the Government of Myanmar's Annual Budget allocations; assist MOEP in eestablishing and maintaining project accounts (accounting and financial management systems and records) in compliance with the procedures and guidelines of the Government and the ADB;
- (iii) assist MOEP in mmaintaining proper internal controls within the financial operations of the project, particularly for bank accounts and cash advances;
- (iv) assist MOEP in the management and administration of all financial transactions under the project;
- (v) assist MOEP in the approval of expenditures;
- (vi) assist MOEP in the generation of the project financial statements and various financial reports necessary for effective and responsible financial management and decision-making, in a timely manner;
- (vii) assist YESB and ESE in preparing both entities' financial statements in a timely manner;
- (viii) assist MOEP in preparing the External Auditor's Terms of Reference, and in facilitating the audit of the project financial statements, and YESB's and ESE's financial statements in a timely manner;
- (ix) provide on the job training and develop staff capability on financial management and reporting, and train counterpart MOEP, YESB and ESE staff in all aspects of financial management and reporting processes and procedures; and
- (x) prepare progress reports and a completion report as required by the team leader.

VII. SAFEGUARDS

- 55. Environmental, Involuntary Resettlement and Indigenous Peoples Categorization. The project is classified as Category B for environment, Category C for involuntary resettlement. and Category C for indigenous people in accordance with the ADB Safeguard Policy Statement (SPS 2009). This project involves rehabilitation and replacement of the distribution system in several townships throughout Myanmar (Yangon, Mandalay, Magway, and Sagaing) which has the potential to generate adverse impacts to the environment and the community in the project impact area such as during installation of the new concrete poles and cables. However, there is no physical or economic displacement due to the project and no indigenous people will be affected. An initial environmental examination (IEE) has been prepared with an environmental management plan (EMP) with budget and responsibilities for mitigating measures and monitoring, during installation and operation phase with a clear structure for grievance redress mechanism. Occupational and community health and safety training and capacity building on EMP implementation for YESB, ESE, and MOEP staff will be provided. Adequate public consultation to concerned stakeholders was undertaken on environmental related impacts and measures.
- 56. **Health and safety practices**. The practices of MOEP, YESB, and ESE are not within international standards on health and safety. Switchyards and substations are not secure, often without fences, with uncontrolled entry to the facilities. Though most substations are equipped with fire extinguishers, the substation operators do not use personal protective equipment (PPE) such as boots, hard hats, overalls, insulating gloves, safety glasses, ear muffs, among others. In addition, during installation and maintenance work, ladders and scaffolding were not used. To mitigate these, the project will provide for PPEs to workers in all the project areas to be integrated under Tools and Equipment budget. The project implementation consultants will also

provide training on use of PPE, occupational health and safety to workers and safety of nearby communities.

- 57. **Material recovery plan (MRP).** Most of the replaced materials consisting of old distribution lines, substation equipment, wooden poles, and meters can be reused and recycled. A Material Recovery Plan for Replaced Materials will be developed by the PMU with support from PIC. To be identified for each project area, the MRP consists of (i) types and volumes of materials to be replaced, including a detailed inventory of transformers, (ii) recyclable and non-recyclable materials, (iii) current practices of storage, recycling and disposal and, (iv) proposed collection, storage, recovery and disposal measures, (v) develop a disposal plan for PCB-containing transformers, (vi) list of reputable recycling service providers, if any, and (vii) monitoring and reporting. MOEP, YESB, and ESE will make sure this MRP is implemented accordingly and a budget of \$200,000 (apportioned to the four regions) is allocated for the material recovery facility.
- 58. **Distribution transformers.** Due diligence was undertaken on whether there are old transformers to be replaced that used polychlorinated biphenyls (PCBs). During the inventory of transformers in the project sites, based on the equipment nameplate, data were also obtained on the type, company, year produced and country of origin. The distribution transformers were manufactured after mid-1980, mostly 1990s and coming from Europe, China, India and Korea. Myanmar is a signatory to the Stockholm Convention which banned Persistent Organic Pollutants (POPs) including PCBs. The Ministry of Environmental Conservation and Forestry (MOECAF), the focal point for the Stockholm Convention, confirmed that they will start the inventory of POPs this year with United Nations Industrial Development Organisation (UNIDO) and funding from Global Environment Facility. A National Waste Management Plan will also be prepared with support from United Nations Environment Program (UNEP).

VIII. GENDER AND SOCIAL DIMENSIONS

59. The project does not foresee any negative gender impact. The social aspects of the project are described in the Summary Poverty Reduction and Social Strategy.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

Design Summary Impact Reduced power distribution loss and improved energy efficiency	Performance Targets and Indicators with Baselines By 2018 Distribution losses in project areas: 14.2% (baseline: 18.2% in 2012) CO ₂ reduction of 31,990 tCO ₂	Data Sources and Reporting Mechanisms National statistics Annual performance reports of ESE and YESB Project benefit monitoring and postevaluation reports	Assumptions and Risks Assumption Associated improvements in power generation and transmission will occur Risk Limited government financing capacity results in delays of power improvements
Outcome Improved infrastructure to provide reliable and sustainable electricity to the selected townships and districts	By 2016 Electrification ratio: 35% (baseline: 28% in 2012)	National statistics Annual performance reports of ESE and YESB Project benefit monitoring and postevaluation reports	Assumption Counterpart staff familiar with ADB procedures can be retained within ESE and YESB Risk Distribution projects not financed by ADB have implementation delays
1. Rehabilitated distribution network in five townships in Yangon region 2. Rehabilitated distribution network in four districts in Mandalay region 3. Rehabilitated distribution network in five districts in Sagaing region	By 2016 Four 66 kV SS, four 33 kV SS, 105 km of 11 kV line, 229 km of ABC LV line, 36 distribution transformers in five townships in Yangon Two 66 kV SS, twenty 33 kV SS, 228 km ABC LV line, 71 distribution transformers, 55,000 digital revenue meters in Mandalay region Three 33 kV SS, 11 km of 11 kV line, 80 km of ABC LV line, 33 distribution transformers, 1,200 digital revenue meters in Sagaing	MOEP, ESE, and YESB annual reports ADB review missions ADB project completion report	Assumption Estimated prices and physical contingencies are sufficient to allow potential increases in costs Risk Startup delays result from lengthy approval process for loan effectiveness
4. Rehabilitated distribution network in two townships in Magway region	region One 66 kV SS, 7 km of 33 kV line, 44 km of 11 kV line, 127 km of ABC LV line, 107 distribution transformers, 1,937 digital revenue meters in Magway region		

Activities with Milestones

1. Rehabilitated distribution network in five townships in Yangon region

- 1.1 Recruit project implementation consultant and complete bidding documents (June 2014)
- 1.2 Complete bidding, evaluation, and approvals (December 2014)
- 1.3 YESB completes detailed design (December 2015)
- 1.4 Manufacture and deliver goods (June 2016)
- 1.5 Rehabilitate and install works (December 2016)
- 1.6 Build capacity of PMU staff on rehabilitation and operation of power distribution system, procurement, and financial management during implementation (December 2016)
- 1.7 Complete project implementation supervision (December 2016)

2. Rehabilitated distribution network in four districts in Mandalay region

- Recruit project implementation consultant and complete bidding documents (June 2014)
- 2.2 Complete bidding, evaluation, and approvals (December 2014)
- 2.3 ESE completes detailed design (December 2015)
- 2.4 Manufacture and deliver goods (June 2016)
- 2.5 Complete rehabilitation and installation works (December 2016)
- 2.6 Build capacity of PMU and PIU staff on rehabilitation and operation of power distribution system, procurement, and financial management during implementation (December 2016)
- 2.7 Complete project implementation supervision (December 2016)

3. Rehabilitated distribution network in five districts in Sagaing region

- 3.1 Recruit project implementation consultant and complete bidding documents (June 2014)
- 3.2 Complete bidding, evaluation, and approvals (December 2014)
- 3.3 ESE completes detailed design (December 2015)
- 3.4 Manufacture and deliver goods (June 2016)
- 3.5 Complete rehabilitation and installation works (December 2016)
- 3.6 Build capacity of PMU and PIU staff on rehabilitation and operation of power distribution system, procurement, and financial management during implementation (December 2016)
- 3.7 Complete project implementation supervision (December 2016)

4. Rehabilitated distribution network in two townships in Magway region

- 4.1 Recruit project implementation consultant and complete bidding documents (June 2014)
- 4.2 Complete bidding, evaluation, and approvals (December 2014)
- 4.3 ESE completes detailed design (December 2015)
- 4.4 Manufacture and deliver goods (June 2016)
- 4.5 Complete rehabilitation and installation works (December 2016)
- 4.6 Build capacity of PMU and PIU staff on rehabilitation and operation of power distribution system, procurement, and financial management during implementation (December 2016)

Complete project implementation supervision (December 2016)

Inputs

Loan

ADB: \$60 million

Government: \$13.7 million

ABC = aerial bundled conductor, CO^2 = carbon dioxide, LV = low voltage, ADB = Asian Development Bank, ESE = Electricity Supply Enterprise, km = kilometer, kV= kilovolt, IDC= interest during construction, MOEP = Ministry of Electric Power, RRP = Report and Recommendation to the President, SS= substation, tCO_2 = tons of carbon dioxide YESB = Yangon City Electric Supply Board Source: Asian Development Bank.

B. Monitoring

- 60. **Project performance monitoring.** Each PMU will establish a project performance monitoring system. ADB through the project performance reporting (PPR) system will rigorously monitor the overall performance of the project. Each PMU will refine the monitoring system within 6 months from project commencement and collect and update baseline data for performance monitoring. The key indicators and targets, assumptions, and risks outlined at the impact, outcome, and output levels in the project's design and monitoring framework will be the primary data required for analysis. For this purpose, ADB inception mission will provide to MOEP, YESB and ESE a checklist of the above data, which will be updated and reported quarterly through the MOEP's quarterly progress reports and after each ADB review mission. These quarterly reports will provide information to regularly update ADB's project performance reporting system¹⁰.
- 61. **Compliance monitoring.** Compliance for all loan covenants (environmental safeguards, financial, economic, and others) will be jointly monitored by MOEP and ADB through monthly updates provided by the PMU. In this respect, the PMU will submit to ADB a status report on the covenants summary with the explanation and time-bound actions on partly or non-complied covenants. As part of the joint venture efforts, ADB's Extended Mission in Myanmar will hold quarterly review meetings with MOEP to ensure the full compliance of all the loan covenants. In addition, MOEP and ADB shall undertake a comprehensive midterm review after 2 years of project commencement. At the conclusion of the mid-term review, ADB and the Borrower may agree on changes in both Project scope and implementation arrangements, as deemed necessary.
- 62. **Safeguards monitoring.** Compliance to environmental, involuntary resettlement, and indigenous peoples safeguards and corrective action, if any, will be included in the quarterly progress report to be prepared by the PIC and PMU. Monitoring mechanism should be included in the Material Recovery Plan to report the status of implementation of the material recovery program which should follow local regulations and the Environmental Conservation Law (2012) of Myanmar.
- 63. **Gender and social dimensions monitoring.** The project has no gender and social issues/concerns and will not require gender and social monitoring.

C. Evaluation

64. Following loan signing, a project inception mission will be fielded to confirm the working relationship between ADB and EA and PMU staff involved in the implementation of the project. Progress under the project will be subject to a formal review every 6 months by ADB, following loan effectiveness to enable adjustment of project design and implementation arrangements, where required. The review will address policy, institutional, administrative, organizational, technical, environmental, social, economic, financial, and other relevant factors that may have an impact on project performance and its continuing viability. A comprehensive midterm review is tentatively scheduled in end 2015 or early 2016. Within 6 months of physical completion of the project, MOEP will submit a project completion report to ADB. The EA and IAs will

ADB's project performance reporting system is available at: http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool

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

evaluate each project area performance based on indicators and targets stipulated in the design and monitoring framework and baseline profiling data collected at project appraisal. Subsequently, ADB will field a mission to finalize the PCR. Evaluation activities are summarized in Table below.

Summary of Evaluation Activities

Evaluation Activity	Purpose	Methodology	Who are responsible and involved
Review Mission	Review the progress of the project and provide guidance to facilitate implementation	Site visit and meetings with EA/IA officials, suppliers, consultants twice a year	ADB MOEP YESB and ESE
Project Completion Report	Evaluate the overall output of the project and its relevance and suitability	Site visit and meetings with EA/IA officials, suppliers, consultants	ADB MOEP YESB and ESE

D. Reporting

- 65. The MOEP will provide ADB with (i) quarterly progress reports 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 accounts and the executing agency AFSs, together with the associated auditor's report, should be adequately reviewed.
- 66. All agreements will be in English and Myanmar language. ADB recommends that all reports and supporting documents that require ADB's approval and review shall be submitted in English.

E. Stakeholder Communication Strategy

67. The Stakeholder Communications Strategy is summarized below. The EA will post all relevant information on its website. The website will include at minimum information regarding the bidding process, bidders, contract awards, use of funds disbursed under the project and physical progress. The project will also follow the ADB's *Public Communication Policy* 2011¹² and its guidelines on the disclosure and exchange of information.

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¹² ADB. 2011. Public Communications Policy 2011, *Disclosure and Exchange of Information*. Manila.

X. ANTICORRUPTION POLICY

- 68. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy (1998, as amended to date) relating to the project. 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. 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.
- 69. To support these efforts, relevant provisions are included in the loan agreement/regulations and the bidding documents for the project.

XI. ACCOUNTABILITY MECHANISM

70. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism. ¹⁵

XII. RECORD OF PAM CHANGES

- 71. The first draft of PAM has been prepared and discussed during the loan fact-finding in August 2013. The PAM was revised and agreed upon during the loan negotiations on 24–25 October 2013 and on 8 November 2013.
- 72. The PAM will be subject to change after ADB Board approval of the project and during the period of project implementation. All revisions and updates of the PAM should be recorded in this section to provide a chronological history of the changes to the implementation arrangements recorded in PAM.

¹⁵ For further information see: http://www.adb.org/Accountability-Mechanism/default.asp.

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¹³ Available at: http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf

¹⁴ ADB's Integrity Office web site is available at: http://www.adb.org/integrity/unit.asp