

# Project Administration Manual

Project Number: 50020-002  
Loan Number: {LXXXX}  
September 2018

The Republic of the Union of Myanmar: Power  
Network Development Project

## ABBREVIATIONS

ADB	=	Asian Development Bank
CBA	=	Community Based Assessment
CEMP	=	Contractor's environmental management plan
EMP	=	environmental management plans
EIA	=	environmental impacts assessment
ESE	=	Electricity Supply Enterprise
FMA	=	financial management assessment
IEE	=	initial environmental examination
DPTSC	=	Department of Power Transmission and System Control
MOEE	=	Ministry of Electricity and Energy
NCB	=	national competitive bidding
OAG	=	Office of the Auditor General
PAM	=	project administration manual
PIC	=	Project Implementation Consultant
PIU	=	project implementation unit
PMU	=	project management unit
REGDP	=	resettlement and ethnic group development plan
SCS	=	Stakeholder Communication Strategy
SPS	=	ADB's Safeguard Policy Statement 2009

## Weights and Measures

km	=	kilometer
kV	=	kilovolt
MVA	=	megavolt-ampere

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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 the policies and procedures of the government and Asian Development Bank (ADB). 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 Electricity and Energy (MOEE), Department of Power Transmission and System Control (DPTSC) 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 the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation including compliance by MOEE, DPTSC 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 shall agree to the PAM and ensure consistency with the loan agreement. Such agreement shall be reflected in the minutes of the loan negotiations. In the event of any discrepancy or contradiction between the PAM and the loan agreement, the provisions of the loan agreement shall prevail.

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

## I. PROJECT DESCRIPTION

1. The project will construct two 230-kilovolt (kV) transmission lines (of about 300 kilometers) with five 230 kV substations, 48 medium-voltage substations, and 843 kilometers of distribution lines in various states and regions in Myanmar. The project will install, for the first time, computerized systems to improve operational efficiency and reduce losses in the transmission and distribution systems. Such computerized systems will be introduced as a first step toward digitizing power system management in Myanmar.<sup>1</sup> The project will help increase the electricity supply in support of inclusive and sustainable development and achieve the country's target of universal electricity access by 2030. It is included in the country operations business plan, 2017–2019 of the Asian Development Bank (ADB) for Myanmar.<sup>2</sup>

2. **Impact and Outcome.** The impact the project is aligned with is universal electricity access achieved. The outcome will be capacity and operational efficiency of power transmission and distribution in central and southern Myanmar increased.

3. **Outputs.** The outputs of the project will be:

**Output 1: Myanmar's 230 kV transmission network expanded.** This will be delivered by construction and commissioning of 402 km of 230 kV transmission lines and 800 MVA of 230 kV transformer capacity.

**Output 2: New distribution facilities added to the distribution systems in the Ayeyarwady and Bago regions and in Kayin, Mon, and Rakhine states.** This will be delivered by construction and commissioning 843 km of distribution lines and 48 distribution substations. Details about the subprojects by region, number of townships, villages, and household to be electrified is shown in Annex 1.

**Output 3: A new computerized asset management system and a computerized customer billing system installed.** This includes design, installation and testing of these systems.

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<sup>1</sup> The Asian Development Bank (ADB) provided project preparatory technical assistance for Preparing the Power Network Development Project (TA 9179).

<sup>2</sup> ADB. 2016. *Country Operations Business Plan: Myanmar 2017–2019*. Manila.

## II. IMPLEMENTATION PLANS

### A. Project Readiness Activities

**Table 1: Project Readiness**

Indicative Activities	Months						Responsible by
	Jan 18	Jun 18	Nov 18	Dec 18	Mar 19	Jun 19	
Advance contracting actions	X	X	X	X	X	X	ADB, Ministry of Electricity and Energy (MOEE)
Retroactive financing actions	N.A.						
Establish project implementation arrangements	X						
Asian Development Bank (ADB) Board approval			X				
Loan signing				X			
Government legal opinion provided					X		
Government budget inclusion					X		
Loan effectiveness						X	

Source(s): ADB staff and Executing Agency staff estimates.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Nov	Mar	Main responsible
Fact Finding Mission completed												ADB, MOEE
Draft bidding documents ready												ADB, MOEE
Disclosure of safeguard documents												ADB, MOEE
ADB Management Review Meeting												ADB
Internal MOEE approval obtained												MOEE
MOEE obtains government and parliament approvals												MOEE
Loan negotiations												ADB, GOM
Circulation of project to the ADB Board												ADB
ADB Board approval												ADB
Loan signing												ADB, GOM
Loan effectiveness												GOM

ADB = Asian Development Bank; GOM = Government of the Republic of the Union of Myanmar, including relevant ministries and agencies responsible for project approval such as Central Bank of Myanmar and Ministry of Finance; DACU = Development Assistance Coordination Unit; MOEE = Ministry of Electricity and Energy; MOPF = Ministry of Finance and Planning.

## B. Overall Project Implementation Plan

4. The project is expected to be approved in September 2018. Loan effectiveness is expected in June 2019. The project implementation period is 72 months. The project is expected to be physically completed by 30 June 2025. Monitoring of project performance and outcome will be until 31 December 2025, including preparation of project completion report. Loan closing date is 31 December 2025. The project preparation milestones and overall project implementation schedule are as follows:

**Table 2: Project Implementation Schedule**

MAIN ACTIVITY	Start	End	2018	2019	2020	2021	2022	2023	2024	2025
Establishment of PIUs	Mar-18	Mar-18	█							
Recruitment of PICs (Q2/2018 - Q1/2019) ( <i>advance contracting</i> )	Apr-18	Mar-19	█	█	█	█	█	█	█	█
PIC Project Supervision	Apr-19	Jun-25		█	█	█	█	█	█	█
<i>Output 1: Transmission Component</i>										
A. Mawlamyine-ye-Dawei										
1.1a Contract tendering (Q2/2018–Q1/2019) ( <i>advance contracting</i> )	Jul-18	Mar-19	█							
1.2a Award contract(s) (Q2/2019)	Apr-19			█						
1.3a Update/finalize resettlement, land acquisition and environmental plans (Q2–Q3/2019)	Apr-19	Sep-19		█						
1.4.a Implement resettlement and land acquisition (by sections) (Q3/2019-Q4/2020)	Jul-19	Dec-20		█	█					
1.5a Implement contract(s) (Q3/2019–Q2/2021)	Jul-19	Jun-21		█	█	█				
1.6a Testing and commissioning (Q3-Q4/2021)	Jul-21	Dec-21				█				
B. Ahlone and Thida										
1.1b Contract tendering (Q3/2019–Q1/2020)	Jul-19	Mar-20		█						
1.2b Award contract(s) (Q2/2020)	Apr-20				█					
1.3b Update and finalization of resettlement and land acquisition and environmental plans (Q2–Q3/2020)	Apr-20	Sep-20		█						
1.4b Implement resettlement and land acquisition (by sections) (Q3/2020-Q2/2022)	Jul-20	Jun-22		█	█	█				
1.5b Implement contract(s) (Q3/2020–Q4/2022)	Jul-20	Dec-22		█	█	█	█			
1.6b Testing and commissioning (Q4/2023)	Jan-23	Jun-23					█			
<i>Output 2: Distribution Component</i>										
2.1 Update bidding documents based on preliminary survey, update and implement safeguard (including resettlement and land acquisition and environmental) plans (Q2/2019-Q1/2020)	Apr-19	Mar-20		█						
2.2 Goods Contract tendering (Q4/2019–Q4/2020)	Oct-19	Dec-20		█						
2.3 Delivery of Goods (Q3/2020-Q4/2021)	Jul-20	Dec-21			█					
2.3 Works contract tendering (Q3/2020-Q4/2021)	Jul-20	Dec-21			█					
2.4 Implement works contract(s) (Q1/2022– Q4/2024)	Jan-22	Dec-24				█	█	█	█	
2.5 Testing and commissioning (Q1/2024-Q2/2025)	Jan-24	Jun-25						█	█	
<i>Output 3: IT Systems for Asset Management and Billings</i>										
3.1 Prepare bidding documents for CAMS and CCBS (Q3-Q4/2020)	Jul-20	Dec-20			█					
3.2 Contract tendering (Q1/2021–Q4/2021)	Jan-21	Dec-21			█					
3.3 Award contract(s) (Q4/2021)	Dec-21	Dec-21				█				
3.4 Knowledge transfer to DPTSC and ESE staff (Q1/2022–Q2/2025)	Jan-22	Jun-25					█	█	█	█
3.5 Commissioning, capacity building for operation of CAMS and CCBS (Q1/2022–Q2/2025)	Jan-22	Jun-25					█	█	█	█
Loan Effectiveness (Q1/2019)	Jan-19	Mar-19		█						
Midterm Loan Review (Q3/2022)	Jul-22	Sep-22					█			
Project Closing Activities (Q3-Q4/2025)	Jul-25	Dec-25								█

ADB = Asian Development Bank; CAMS = computerized assets management system; CCBS = computerized customer billing system; DPTSC = Department of Power Transmission and System Control; ESE = Electricity and Supply Enterprise; PIC = Project Implementation Consultant; PIU = project implementation unit.

Source: ADB staff and Executing Agency staff estimates.



### III. PROJECT MANAGEMENT ARRANGEMENTS

#### A. Project Implementation Organizations: Roles and Responsibilities

**Table 3: Project Management Arrangements**

Project Implementation Organizations	Management Roles and Responsibilities
Ministry of Electricity and Energy (MOEE)	<ul style="list-style-type: none"> <li>➤ Responsible for overall supervision of the project implementation;</li> <li>➤ Responsible for coordination with governmental agencies, ministries, and Yangon City authorities to support project implementation;</li> <li>➤ Timely provision of agreed counterpart funds for project activities;</li> <li>➤ Complying with all loan covenants in the Loan Agreement; and</li> <li>➤ Review and endorse proposed key changes during project implementation, if any.</li> </ul>
Department of Power Transmission and System Control (DPTSC)	<ul style="list-style-type: none"> <li>➤ Responsible for the overall supervision and execution of the transmission component of the project;</li> <li>➤ Establish the PMU with sufficient staff and appropriate qualification;</li> <li>➤ Timely provision of agreed counterpart funds for project activities;</li> <li>➤ Timely review of detailed project design components and resettlement plans and updated environmental management plans (EMPs) submitted by PMU;</li> <li>➤ Timely review and endorsement of bid evaluation reports and contract award recommendations submitted by PMU;</li> <li>➤ Timely award of contracts and signing of contracts;</li> <li>➤ Manage contract execution;</li> <li>➤ Timely review and endorsement of withdrawal applications submitted by PMU and then submit to MOEE;</li> <li>➤ Ensure financial audits as per agreed timeframe and take recommended actions;</li> <li>➤ Comply with all loan covenants in the Loan Agreement; and</li> <li>➤ Responsible for collection and retention of all support documents, reporting documents and annual audit report and financial statements.</li> </ul>
Electricity Supply Enterprise (ESE)	<ul style="list-style-type: none"> <li>➤ Responsible for the overall supervision and execution of the distribution component project;</li> <li>➤ Establish the PMU with sufficient staff and appropriate qualifications;</li> <li>➤ Timely provision of agreed counterpart funds for project activities;</li> <li>➤ Timely review of detailed project design components and resettlement plans and updated EMPs submitted by PMU;</li> <li>➤ Timely review and endorsement of bid evaluation reports and contract award recommendations submitted by PMU;</li> <li>➤ Timely award of contracts and signing of contracts;</li> <li>➤ Manage contract execution;</li> <li>➤ Timely review and endorsement of withdrawal applications submitted by PMU and then submit to MOEE;</li> <li>➤ Ensure financial audits as per agreed timeframe and take recommended actions;</li> <li>➤ Comply with all loan covenants in the Loan Agreement; and</li> <li>➤ Responsible for collection and retention of all support documents, reporting documents and annual audit report and financial statements.</li> </ul>

Project Implementation Organizations	Management Roles and Responsibilities
Project Management Units (PMUs)	<ul style="list-style-type: none"> <li>➤ Take advance actions to recruit project implementation consultant (PICs) and for DPTSC PMU, procure plant-design, supply and installation contracts for the 230kV Mawlamyine-Ye-Dawei transmission lines.</li> <li>➤ Together with PICs update all resettlement plans, IEE and EMP, obtain approval of resettlement plans and updated IEE and EMP by MOEE and by ADB;</li> <li>➤ Implement the approved resettlement plans;</li> <li>➤ Together with PICs, finalize bidding documents, conduct bidding and bid evaluation and finalize contracts for all contract packages;</li> <li>➤ Prepare and obtain approval by MOEE of withdrawal applications;</li> <li>➤ Monitor and evaluate project activities and outputs, including periodic review, preparation of review reports identifying issues and action plans; and</li> <li>➤ Prepare regular periodic progress reports and project completion report and submit to ADB as per agreed timeline.</li> </ul>
Ministry of Finance (MOF)	<ul style="list-style-type: none"> <li>➤ Signing the Loan Agreement;</li> <li>➤ Allocating and releasing counterpart funds;</li> <li>➤ Endorsing to ADB the authorized staff with approved signatures for processing withdrawal applications; and</li> <li>➤ Processing and submitting to ADB any request, when required, for reallocating the loan proceeds.</li> </ul>
Asian Development Bank (ADB)	<ul style="list-style-type: none"> <li>➤ Assist MOEE, DPTSC, ESE and the PMUs in providing timely guidance at each stage of project implementation in accordance with the agreed implementation arrangements;</li> <li>➤ Review all the documents that require ADB approval;</li> <li>➤ Conduct an inception mission, periodic loan review missions, a mid-term review, a completion mission for the project, and an overall project completion mission;</li> <li>➤ Monitor and require compliance of all loan covenants;</li> <li>➤ Process withdrawal applications in a timely manner and release eligible funds;</li> <li>➤ Monitor and require compliance with financial audit recommendations;</li> <li>➤ Regularly update ADB's project performance review reports with assistance of MOEE, DPTSC and ESE and its progress reports; and</li> <li>➤ Regularly post on ADB website the updated project information documents for public disclosure.</li> </ul>

ADB = Asian Development Bank; DPTSC = Department of Power Transmission and System Control; ESE = Electricity and Supply Enterprise; MOEE = Ministry of Electricity and Energy; MOF = Ministry of Finance; PIC = Project Implementation Consultant; PMU = project management unit.

## B. Key Persons Involved in Implementation

### Executing/Implementing Agencies

Ministry of Electricity and Energy (MOEE)

Permanent Secretary  
Telephone: (95) 67 410206  
Office Address: Office Building No. 27, Naypyitaw

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Transmission and System  
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## **C. Project Organization Structure**

5. Ministry of Electricity and Energy (MOEE) will be the executing agency. Department of Electric Power Planning will be responsible for inter- and intra-ministerial coordination for project approval. Department of Power Transmission and System Control (DPTSC) and Electricity Supply Enterprise (ESE) will be the implementing agencies. The implementing agencies will be responsible for overall project implementation and management and will establish and coordinate two Project Management Units (PMUs).

6. ESE and DPTSC will each establish a PMU for their respective components which will be responsible for overall supervision of project implementation and preparation of progress reports, ensuring that financial and reporting requirements are met and ADB procurement procedures followed. ESE will also establish five project implementation units (PIUs) for five project areas under ESE in each of the states/regions of Ayeyarwady, Bago, Mon, Kayin, and Rak hine. DPTSC will also establish two project implementations units for two project areas under DPTSC for the 230 kV line Ahlone–Thida subproject and 230 kV line Mawlamyine–Ye–Dawei subproject. The organization diagram is shown below.

7. ESE PMU and DPTSC PMU, with support from the respective project implementation consultants (PICs) (one PIC for each component) will undertake the engineering design, bidding, and bid evaluation; conduct contract negotiations; finalize contracts and disbursement; and supervise supply, installation, and commissioning works. The PMUs together with the PICs will implement the resettlement plans and EMPs, stakeholder communication plans and monitor status of compliance with resettlement plans and EMPs in their respective project areas. ESE and

DPTSC, on behalf of MOEE, will be authorized to sign and administer the contract packages that will be financed by ADB for their respective project areas.

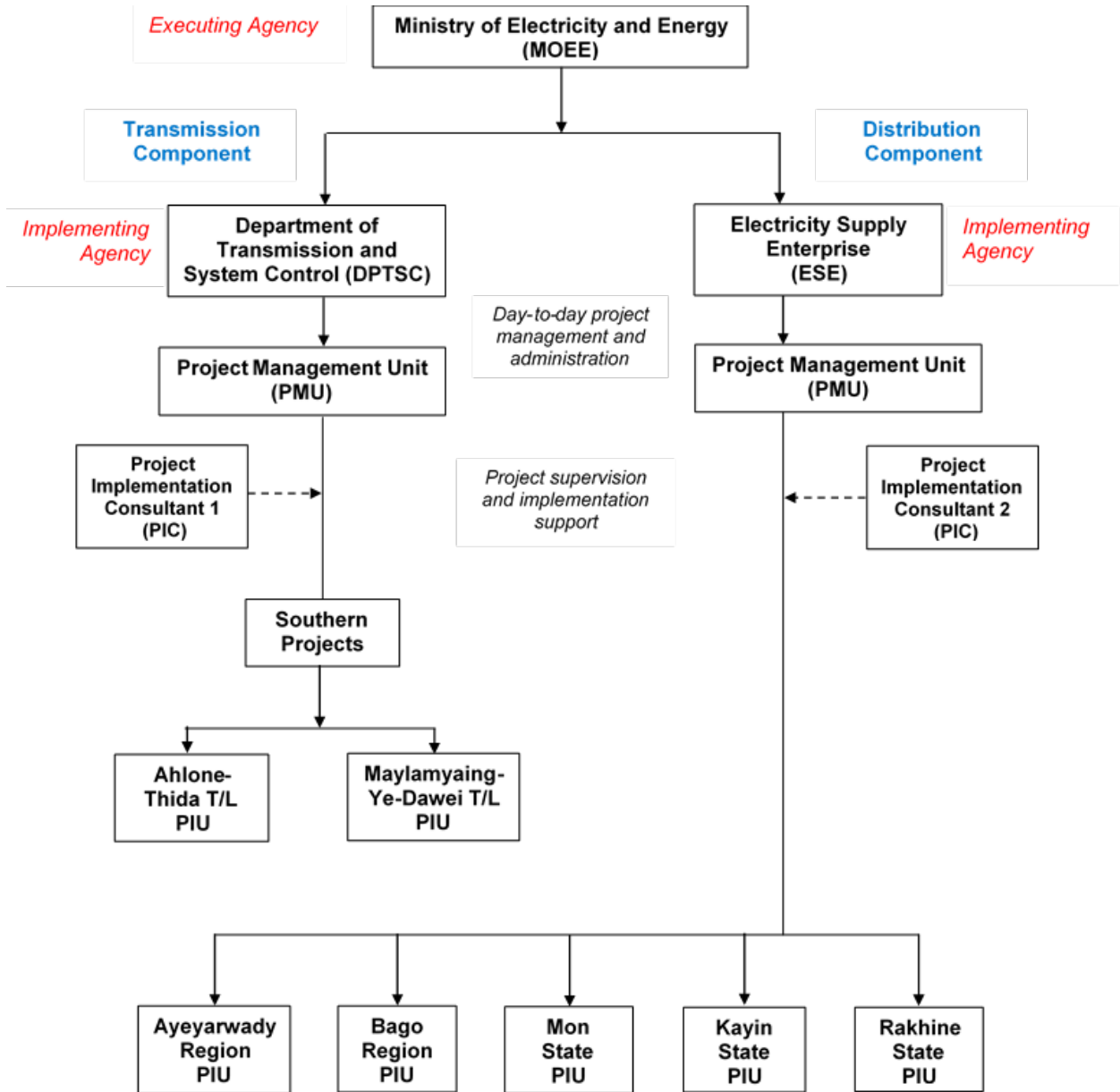
8. The PMU will comprise seven counterpart staff and the PIU will comprise five counterpart staff. The composition of PMU and PIU is in table 4 below:

**Table 4. PMU and PIU Composition**

Item	ESE	DPTSC
Project Management Unit	Project Director Distribution Engineer Substation Engineer Procurement Expert Financial Expert Environment responsible person Social Resettlement responsible persons Stakeholder and public communication responsible person	Project Director Transmission Engineer Substation Engineer Procurement Expert Financial Expert Environment responsible person Social Resettlement responsible persons Stakeholder and public communication responsible person
Project Implementation Unit	Project Manager Distribution Engineer Substation Engineer Environment responsible persons Social Resettlement responsible persons Stakeholder and public communication responsible person	Project Manager Transmission Engineer Substation Engineer Environment responsible persons Social Resettlement responsible persons Stakeholder and public communication responsible person

ESE = Electricity Supply Enterprise; DPTSC = Department of Power Transmission and System Control; PIU = Project Implementation Unit; PMU = Project Management Unit.

**Figure 1. Organization of project implementation**



**IV. COSTS AND FINANCING**

9. The project cost is estimated at \$308.9 million equivalent, including physical and price contingencies, financing charges during implementation, and taxes and duties. ADB will provide a loan of \$298.9 million from the Ordinary Capital Resources (concessional) to cover the costs of (i) contracts for design, supply, installation, and commissioning of the transmission lines and substations under the project; contracts for material supply and contract for goods and works under the project; (ii) consulting services; (iii) taxes and duties; (iv) contingencies; and (v) interest charges during implementation. The Government will finance costs of project administration, and the environmental and social safeguard measures. The total contribution of the Government is estimated at \$10.0 million equivalent. The investment plan is summarized in the following tables.

## A. Cost Estimates Preparation and Revisions

10. Base cost estimates were prepared by DPTSC and ESE, in conjunction with the project preparatory consultant, based on an assessment of unit quantities and recent tender prices received for similar works. Contingencies and financing charges during implementation were estimated by ADB. During project implementation, project cost estimates are normally revised after contracts are awarded, using the Contract Price, and updated from time to time for quantity and price variations and the Final Contract Price. The revised cost estimates and contract prices are reflected during periodic updating of the Procurement Plan.

## B. Key Assumptions

11. The following key assumptions underpin the cost estimates and financing plan:

- (i) Exchange rate: MMK 1,350 = \$1.00 (as of January 2018)
- (ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

**Table 5: Escalation Rates for Price Contingency Calculation**

<b>Item</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>Average</b>
Foreign rate of price inflation	1.5%	1.5%	1.5%	1.5%	1.6%	1.5%
Cumulative escalator (foreign)	1.5%	3.0%	4.6%	6.2%	7.9%	
Domestic rate of price inflation	7.5%	7.5%	7.5%	7.5%	8.0%	7.6%
Cumulative escalator (domestic)	7.5%	15.5%	24.2%	34.1%	44.9%	

Source(s): Asian Development Bank.

## C. Detailed Cost Estimates by Expenditure Category

**Table 6. Detailed Cost Estimates by Expenditure Category**

Item	MK million			\$ million			% of Base Cost
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost	
<b>A. Investment Costs <sup>a</sup></b>							
<b>1. Transmission</b>							
a. Lines and substations							
i. Ahlone-Thida	14,933.3	19,025.8	33,959.1	11.06	14.09	25.15	10%
ii. Mawlamyine-Ye-Dawei	73,799.3	80,540.2	154,339.6	54.67	59.66	114.33	44%
b. Computerised asset management system	4,583.3	320.8	4,904.1	3.40	0.24	3.63	1%
c. Project implementation consultant	5,829.0	1,533.9	7,362.9	4.32	1.14	5.45	2%
d. Environmental and social safeguards	0.0	4,860.0	4,860.0	0.00	3.60	3.60	1%
e. Land	0.0	810.0	810.0	0.00	0.60	0.60	0%
f. Project management <sup>b</sup>	0.0	4,050.0	4,050.0	0.00	3.00	3.00	1%
<b>Subtotal (1)</b>	<b>99,144.8</b>	<b>111,140.8</b>	<b>210,285.6</b>	<b>73.44</b>	<b>82.33</b>	<b>155.77</b>	<b>59%</b>
<b>2. Distribution</b>							
a. Lines and substations							
i. Ayeyarwady	23,798.2	6,325.4	25,464.0	17.63	4.69	22.31	8%
ii. Bago East	7,184.6	2,075.3	7,687.5	5.32	1.54	6.86	3%
iii. Bago West	12,188.2	3,299.4	13,041.3	9.03	2.44	11.47	4%
iv. Mon	12,937.2	3,539.5	13,842.8	9.58	2.62	12.20	5%
v. Kayin	24,111.3	6,177.3	25,799.0	17.86	4.58	22.44	9%
vi. Rakhine	21,796.6	5,230.8	23,322.3	16.15	3.87	20.02	8%
b. Computerised billing system	4,583.3	320.8	4,904.1	3.40	0.24	3.63	1%
c. Project implementation consultant	4,043.4	2,742.7	6,786.2	3.00	2.03	5.03	2%
d. Environmental and social safeguards	0.0	804.6	804.6	0.00	0.60	0.60	0%
e. Land	0.0	275.4	275.4	0.00	0.20	0.20	0%
f. Project management <sup>b</sup>	0.0	2,700.0	2,700.0	0.00	2.00	2.00	1%
<b>Subtotal (2)</b>	<b>110,642.7</b>	<b>33,491.3</b>	<b>124,627.4</b>	<b>81.96</b>	<b>24.81</b>	<b>106.77</b>	<b>41%</b>
<b>Total Base Cost</b>	<b>209,787.5</b>	<b>144,632.1</b>	<b>334,913.0</b>	<b>155.40</b>	<b>107.13</b>	<b>262.53</b>	<b>100%</b>
<b>B. Contingencies</b>							
1. Physical <sup>c</sup>	17,440.1	10,552.0	27,992.1	13.75	8.23	21.98	8%
2. Price <sup>d</sup>	109,456.3	60,850.3	170,306.5	13.07	3.55	16.62	6%
<b>Subtotal (B)</b>	<b>126,896.4</b>	<b>71,402.3</b>	<b>198,298.6</b>	<b>26.82</b>	<b>11.79</b>	<b>38.60</b>	<b>15%</b>
<b>C. Financing Charges During Implementation</b>							
1. Interest during implementation <sup>e</sup>	15,265.4	0.0	15,265.4	7.77	0.00	7.77	3%
<b>Subtotal (C)</b>	<b>15,265.4</b>	<b>0.0</b>	<b>15,265.4</b>	<b>7.77</b>	<b>0.00</b>	<b>7.77</b>	<b>3%</b>
<b>Total Project Cost (A+B+C)</b>	<b>351,949.3</b>	<b>216,034.3</b>	<b>548,477.0</b>	<b>189.98</b>	<b>118.92</b>	<b>308.90</b>	<b>118%</b>

a/ In Q2 2018 prices. Includes taxes and duties of \$10.27 million for transmission and \$7.31 million for distribution.

b/ Includes all EA/IA project managements costs, including staff.

c/ Computed at an average rate of 8.4% of base costs.

d/ Computed using ADB's forecasts of international and domestic inflation and includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

e/ Interest during implementation has been computed has been computed at 1%.

Source: Executing Agency and Asian Development Bank estimates

**D. Allocation and Withdrawal of Loan Proceeds**

**Table 7. Allocation and Withdrawal of Loan Proceeds**

<b>ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS</b>			
<b>Myanmar Power Network Development Project</b>			
<b>Number</b>	<b>Item</b>	<b>Total Amount Allocated for ADB Financing (\$ million)</b>	<b>Basis for Withdrawal from Loan Account</b>
1.	Transmission lines and substations, Computerized asset management system and consultants - DPTSC	148.56	100% of total expenditure claimed
2.	Distribution lines and substations, computerized billing system, and consultants - ESE	103.97	100% of total expenditure claimed
3.	Interest charges	7.77	100% of amounts due
4.	Unallocated	38.60	
	<b>Total</b>	<b>298.9</b>	

DPTSC = Department of Power Transmission and System Control; ESE = Electricity Supply Enterprise.



## E. Detailed Cost Estimates by Financier

Table 8. Detailed Cost Estimates by Financier

	ADB		Government		Total Cost
	Concessional OCR	% of Cost Category	Amount	% of Cost Category	
<b>A. Investment Costs</b>					
<b>1. Transmission</b>					
a. Lines and substations					
i. Ahlone-Thida	25.15	100%	0.00	0%	25.15
ii. Mawlamyine-Ye-Dawei	114.33	100%	0.00	0%	114.33
b. Computerised asset management system	3.63	100%	0.00	0%	3.63
c. Project implementation consultant	5.45	100%	0.00	0%	5.45
d. Environmental and social safeguards	0.00	0%	3.60	100%	3.60
e. Land	0.00	0%	0.60	100%	0.60
f. Project management	0.00	0%	3.00	100%	3.00
<b>Subtotal (1)</b>	<b>148.57</b>	<b>95%</b>	<b>7.20</b>	<b>5%</b>	<b>155.77</b>
<b>2. Distribution</b>					
a. Lines and substations					0.00
i. Ayeyarwady	22.31	100%	0.00	0%	22.31
ii. Bago East	6.86	100%	0.00	0%	6.86
iii. Bago West	11.47	100%	0.00	0%	11.47
iv. Mon	12.20	100%	0.00	0%	12.20
v. Kayin	22.44	100%	0.00	0%	22.44
vi. Rakhine	20.02	100%	0.00	0%	20.02
b. Computerised billing system	3.63	100%	0.00	0%	3.63
c. Project implementation consultant	5.03	100%	0.00	0%	5.03
d. Environmental and social safeguards	0.00	0%	0.60	100%	0.60
e. Land	0.00	0%	0.20	100%	0.20
f. Project management	0.00	0%	2.00	100%	2.00
<b>Subtotal (2)</b>	<b>103.97</b>	<b>97%</b>	<b>2.80</b>	<b>3%</b>	<b>106.77</b>
<b>Total Base Cost</b>	<b>252.53</b>	<b>96%</b>	<b>10.00</b>	<b>4%</b>	<b>262.53</b>
<b>B. Contingencies</b>					
1. Physical	21.98	100%	0.00	0%	21.98
2. Price	16.62	100%	0.00	0%	16.62
<b>Subtotal (B)</b>	<b>38.60</b>	<b>100%</b>	<b>0.00</b>	<b>0%</b>	<b>38.60</b>
<b>C. Financing Charges During Implementation</b>					
1. Interest during implementation	7.77	100%	0.00	0%	7.77
2. Commitment charges	0.00	0%	0.00	0%	0.00
3. Front-end fees	0.00	0%	0.00	0%	0.00
<b>Subtotal (C)</b>	<b>7.77</b>	<b>100%</b>	<b>0.00</b>	<b>0%</b>	<b>7.77</b>
<b>Total Project Cost (A+B+C)</b>	<b>298.90</b>	<b>96.8%</b>	<b>10.00</b>	<b>3.2%</b>	<b>308.90</b>

F. Detailed Cost Estimates by Outputs and/or Components

Table 9. Detailed Cost Estimates by Outputs and/or Components

Item	Total Cost	Transmission		Distribution		Computerisation	
		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
<b>A. Investment Costs</b>							
<b>1. Transmission</b>							
a. Lines and substations							
i. Ahlone-Thida	25.15	25.15	100%	0.00	0%	0.00	0%
ii. Mawlamyine-Ye-Dawei	114.33	114.33	100%	0.00	0%	0.00	0%
b. Computerised asset management system	3.63	0.00	0%	0.00	0%	3.63	100%
c. Project implementation consultant	5.45	5.45	100%	0.00	0%	0.00	0%
d. Environmental and social safeguards	3.60	3.60	100%	0.00	0%	0.00	0%
e. Land	0.60	0.60	100%	0.00	0%	0.00	0%
f. Project management	3.00	3.00	100%	0.00	0%	0.00	0%
<b>Subtotal (1)</b>	<b>155.77</b>	<b>152.13</b>	<b>98%</b>	<b>0.00</b>	<b>0%</b>	<b>3.63</b>	<b>2%</b>
<b>2. Distribution</b>							
a. Lines and substations							
i. Ayeyarwady	22.31	0.00	0%	22.31	100%	0.00	0%
ii. Bago East	6.86	0.00	0%	6.86	100%	0.00	0%
iii. Bago West	11.47	0.00	0%	11.47	100%	0.00	0%
iv. Mon	12.20	0.00	0%	12.20	100%	0.00	0%
v. Kayin	22.44	0.00	0%	22.44	100%	0.00	0%
vi. Rakhine	20.02	0.00	0%	20.02	100%	0.00	0%
b. Computerised billing system	3.63	0.00	0%	0.00	0%	3.63	100%
c. Project implementation consultant	5.03	0.00	0%	5.03	100%	0.00	0%
d. Environmental and social safeguards	0.60	0.00	0%	0.60	100%	0.00	0%
e. Land	0.20	0.00	0%	0.20	100%	0.00	0%
f. Project management	2.00	0.00	0%	2.00	100%	0.00	0%
<b>Subtotal (2)</b>	<b>106.77</b>	<b>0.00</b>	<b>0%</b>	<b>103.13</b>	<b>97%</b>	<b>3.63</b>	<b>3%</b>
<b>Total Base Cost</b>	<b>262.53</b>	<b>152.13</b>	<b>58%</b>	<b>103.13</b>	<b>39%</b>	<b>7.27</b>	<b>3%</b>
<b>B. Contingencies</b>							
1. Physical	21.98	15.27	69%	6.71	31%	0.00	0%
2. Price	16.62	10.26	62%	6.36	38%	0.00	0%
<b>Subtotal (B)</b>	<b>38.60</b>	<b>25.53</b>	<b>66%</b>	<b>13.08</b>	<b>34%</b>	<b>0.00</b>	<b>0%</b>
<b>C. Financing Charges During Implementation</b>							
	<b>7.77</b>	<b>4.54</b>	<b>58%</b>	<b>3.09</b>	<b>40%</b>	<b>0.14</b>	<b>2%</b>
<b>Total Project Cost (A+B+C)</b>	<b>308.90</b>	<b>182.20</b>	<b>59%</b>	<b>119.30</b>	<b>39%</b>	<b>7.40</b>	<b>2%</b>

## G. Detailed Cost Estimates by Year

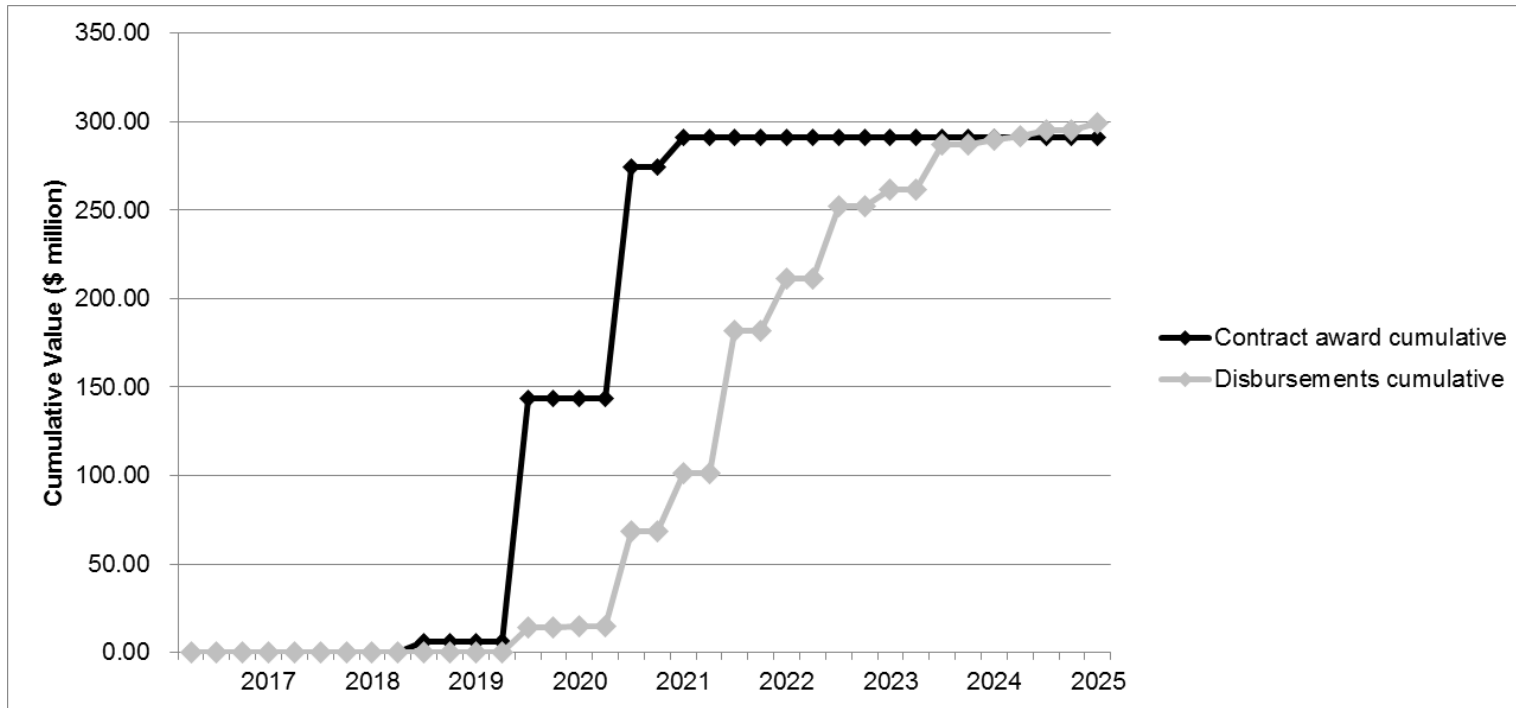
**Table 10. Detailed Cost Estimates by Year**

Item	Total Cost	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
<b>A. Investment Costs</b>									
<b>1. Transmission</b>									
a. Lines and substations									
i. Ahlone-Thida	25.15	0.00	0.00	0.00	2.52	7.55	7.55	5.03	2.52
ii. Mawlamyine-Ye-Dawei	114.33	0.00	0.00	11.43	34.30	34.30	22.87	11.43	0.00
b. Computerised asset management system	3.63	0.00	0.54	0.91	1.09	1.09	0.00	0.00	0.00
c. Project implementation consultant	5.45	0.00	0.00	0.55	1.09	1.09	1.09	1.09	0.55
d. Environmental and social safeguards	3.60	0.00	0.52	1.65	0.79	0.30	0.22	0.12	0.02
e. Land	0.60	0.00	0.12	0.36	0.12	0.00	0.00	0.00	0.00
f. Project management	3.00	0.00	0.15	0.45	0.75	0.75	0.60	0.30	0.00
<b>Subtotal (1)</b>	<b>155.77</b>	<b>0.00</b>	<b>1.33</b>	<b>15.34</b>	<b>40.65</b>	<b>45.07</b>	<b>32.32</b>	<b>17.97</b>	<b>3.08</b>
<b>2. Distribution</b>									
a. Lines and substations									
i. Ayeyarwady	22.31	0.00	0.00	0.35	2.58	6.70	6.70	4.88	1.11
ii. Bago East	6.86	0.00	0.00	0.12	0.80	2.05	2.05	1.50	0.35
iii. Bago West	11.47	0.00	0.00	0.18	1.33	3.44	3.44	2.51	0.57
iv. Mon	12.20	0.00	0.00	0.20	1.42	3.66	3.66	2.67	0.61
v. Kayin	22.44	0.00	0.00	0.33	2.58	6.75	6.75	4.91	1.11
vi. Rakhine	20.02	0.00	0.00	0.27	2.28	6.05	6.05	4.38	0.98
b. Computerised billing system	3.63	0.00	0.54	0.91	1.09	1.09	0.00	0.00	0.00
c. Project implementation consultant	5.03	0.00	0.00	0.50	1.01	1.01	1.01	1.01	0.50
d. Environmental and social safeguards	0.60	0.00	0.08	0.26	0.12	0.04	0.04	0.04	0.02
e. Land	0.20	0.00	0.04	0.12	0.04	0.00	0.00	0.00	0.00
f. Project management	2.00	0.00	0.10	0.30	0.50	0.50	0.40	0.20	0.00
<b>Subtotal (2)</b>	<b>106.77</b>	<b>0.00</b>	<b>0.76</b>	<b>3.54</b>	<b>13.73</b>	<b>31.29</b>	<b>30.10</b>	<b>22.09</b>	<b>5.26</b>
<b>Total Base Cost</b>	<b>262.53</b>	<b>0.00</b>	<b>2.10</b>	<b>18.88</b>	<b>54.38</b>	<b>76.37</b>	<b>62.42</b>	<b>40.06</b>	<b>8.33</b>
<b>B. Contingencies</b>									
1. Physical	21.98	0.00	0.13	1.51	4.62	6.50	5.29	3.29	0.65
2. Price	16.62	0.00	0.04	0.61	2.48	4.50	4.58	3.54	0.86
<b>Subtotal (B)</b>	<b>38.60</b>	<b>0.00</b>	<b>0.17</b>	<b>2.12</b>	<b>7.10</b>	<b>11.00</b>	<b>9.87</b>	<b>6.83</b>	<b>1.51</b>
<b>C. Financing Charges During Implementation</b>	<b>7.77</b>	<b>0.00</b>	<b>0.01</b>	<b>0.10</b>	<b>0.46</b>	<b>1.16</b>	<b>1.91</b>	<b>2.60</b>	<b>1.52</b>
<b>Total Project Cost (A+B+C)</b>	<b>308.90</b>	<b>0.00</b>	<b>2.28</b>	<b>21.10</b>	<b>61.94</b>	<b>88.53</b>	<b>74.20</b>	<b>49.48</b>	<b>11.36</b>
<b>% Total Project Cost</b>	100%	0%	1%	7%	20%	29%	24%	16%	4%

**H. Contract and Disbursement S-Curve**

12. The graph below shows the contract awards and disbursement projections over the implementation period for the project.

**Figure 2. Contract and Disbursement S-Curve**

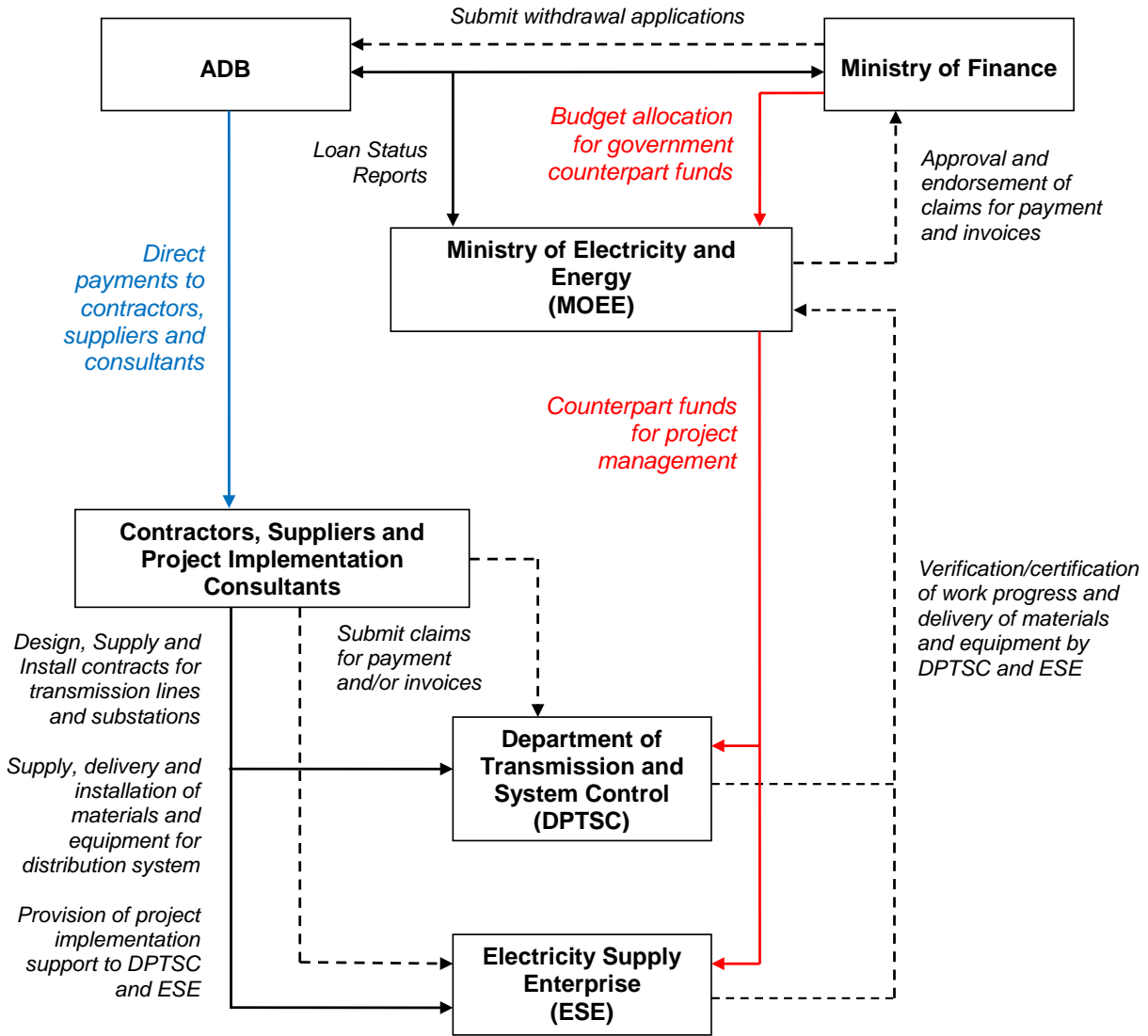


**Table 11. Contract Awards and Disbursement**

Chart Data - Quarters	2019				2020				2021				2022				2023				2024				2025			
Contract award	0.00	5.80	0.00	0.00	0.00	138.09	0.00	0.00	0.00	130.59	0.00	16.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Contract award cumulative	0.00	5.80	5.80	5.80	5.80	143.89	143.89	143.89	143.89	274.48	274.48	291.14	291.14	291.14	291.14	291.14	291.14	291.14	291.14	291.14	291.14	291.14	291.14	291.14	291.14	291.14	291.14	291.14
Disbursement	0.00	0.00	0.00	0.01	0.00	14.39	0.00	0.10	0.00	54.18	0.00	32.67	0.00	80.36	0.00	29.37	0.00	41.27	0.00	9.42	0.00	25.56	0.00	2.60	1.68	3.73	0.00	3.57
Disbursements cumulative	0.00	0.00	0.00	0.01	0.01	14.40	14.40	14.50	14.50	68.68	68.68	101.35	101.35	181.71	181.71	211.08	211.08	252.35	252.35	261.77	261.77	287.33	287.33	289.93	291.60	295.33	295.33	298.90

I. Fund Flow Diagram

Figure 3. Fund Flow Diagram



**Legend:**

- ADB loan funds
- Government counterpart funds

## V. FINANCIAL MANAGEMENT

### A. Financial Management Assessment

13. A financial management assessment (FMA) was conducted in November 2017 in accordance with ADB's guidelines.<sup>3</sup> The FMA considers Myanmar's DPTSC and ESE in their roles as implementing agencies for the project. It is principally an update of the comprehensive FMA undertaken in 2013 at the recommencement of ADB's lending activities in Myanmar (however only two of the four entities assessed in 2013 are covered by this review).<sup>4</sup>

14. The 2013 FMA of the four power sector entities concluded that:

- the finance and accounting functions of the entities were adequately staffed with professional and support personal;
- the existing Chart of Accounts was more-or-less suitable for project activities;
- entity-level reporting arrangement and accounting standards were broadly acceptable;
- internal control systems within the power sector agencies generally provided for a good internal control environment;
- budgeting process were sound and were executed in a timely manner;
- whilst the staff of the power sector agencies were adequately qualified, they lacked adequate knowledge of ADB's financial management policies and procedures and lacked training in general financial management;
- no comprehensive sector-specific financial management manual existed, and the manuals in use were outdated;
- the public power sector entities had very low level of computerization in all areas, including electricity billing activity, financial transaction processing and financial reporting;
- monitoring of annual budgets and variance analysis was weak;
- all four power sector agencies had weak internal audit arrangements; and
- external auditing arrangements were satisfactory, but the issuance of audited financial statements was often delayed by the poor quality of the financial statements prepared by the entities themselves.

15. The updated FMA noted considerable improvement in some areas. Most notably, a new overarching financial management policy manual has been issued by the government and is now in use, and several staff have received training in project and general financial management. Internal audit has also received renewed focus and has been strengthened in both DPTSC and ESE. Annual entity financial statements are noted to have improved in quality, allowing for the Office of the Auditor General's (OAG's) statutory audits to be completed in a timely manner.

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<sup>3</sup> ADB. 2005. *Financial Management and Analysis of Projects*. Manila; ADB. 2015. *Financial Management Technical Guidance Note – Financial Management Assessment*. Manila

<sup>4</sup> ADB. 2013. *Financial Management Assessment Report – Electric Power Sector Myanmar*. Manila.

16. Several weaknesses remain however. Based on the assessment, key financial management risks identified are as follows:

- (i) DPTSC has been restructured into a non-revenue generating government department under MOEE, with no requirement to prepare a full set of annual financial statements<sup>5</sup> and is completely dependent on government budgetary allocations for capital and recurrent expenses. This has reduced DPTSC's financial independence and raises the risk that its finance and commercial functions will weaken.
- (ii) OAG technical capacity is lacking, nor does it have the capacity to issue audit reports in English. Manpower resource constraints in OAG may also result in the delay of APFS submissions.
- (iii) There is virtually no computerization of finance and accounting functions within DPTSC and ESE, and no immediate plans to introduce modern information systems.

17. The overall pre-mitigation financial management risk is assessed as substantial. The Borrower, ESE and DPTSC have agreed to implement an action plan as key measures to address the deficiencies. In addition, several assurances and covenants are introduced in the loan agreement aiming at strengthening technical and financial performance of the implementing agencies.

**Table 12a: Financial Management Action Plan**

Action	Responsibility	Resources	Timing
Department of Power Transmission and System Control (DPTSC) to provide ADB periodic entity-level reports that bring focus to DPTSC's commercial and technical performance	ADB to work with DPTSC to develop reporting templates for DPTSC	No resource requirement	ADB to identify reporting requirements and include as loan assurances
ADB will continue to work with Office of the Auditor General (OAG) to assist in upgrading the accounting and auditing standards in Myanmar, and to address capacity building needs of OAG. ADB to also discuss potential for OAG to outsource audits of project financial statements to a private accounting firm under the supervision of OAG	ADB and OAG	ADB Technical Assistance funding	Ongoing
Train implementing agency staff in ADB's financial management procedures and disbursement. In addition, the project implementation consultant (PIC) will be tasked to support and provide capacity building in financial reporting and monitoring to the implementing agencies.	ADB, DPTSC and ESE	Training resources to be provided by ADB and included in PIC terms of reference	Staff identified by 31 March 2019 and training executed by 30 May 2019
ADB will discuss with the government a change in reporting lines for the Internal Audit head, from the Director Finance to the Director General.	ADB and the government	No resource requirement	Ongoing

<sup>5</sup> DPTSC submits a Statement of Revenues and Expenditures, in fulfillment of statutory reporting requirements.

Action	Responsibility	Resources	Timing
The ADB loan will provide financing for the development of a computerized billing system for Electricity Supply Enterprise (ESE) and an asset management system for DPSTC.	ADB, ESE and DPTSC	Loan	Ongoing

**Table 12b: Covenants and Assurances**

Entity	Objective	Proposed Covenant/Assurance
ESE	<p>The financial covenants imposed on ESE under the previous loan (3084-MYA) were designed to encourage regular tariff reviews (on the part of the government) and good operating cost and debtor management by ESE. A revenue covenant (operating ratio) was included and a liquidity covenant (average debtor days).</p> <p>In light of the ESE's rapidly growing debt service burden, but noting that ESE's financial reporting is limited, it is recommended that a simple capital structure covenant be imposed on ESE.</p>	<p>Interest coverage ratio (EBIT divided by interest on long-term debt) &gt; 1.5</p> <p>(covenants imposed under loan 3084MYA (SF), namely maintenance of accounts receivable at no more than 3 months average sales revenue and maintenance of the ratio of total operating costs to total operating revenues at not more than 90%, will remain in place)</p>
ESE	In the absence of a sector regulator setting performance targets, ADB will work with ESE to identify commercial performance indicators to monitor and report against	<p>Annually submit to ADB (and/or publish on MOEE's website) operational and commercial reports such as:</p> <p>a. quantification of electricity losses by voltage level, a comparison with previous years and a summary of measures taken to reduce commercial losses in the network;</p> <p>b. electricity supply reliability indices including as a minimum System Average Interruption Duration Index (SAIDI), and System Average Interruption Frequency Index (SAIFI).</p>
DPTSC	The absence of revenue for DPTSC and the fact that the entity no longer produces a full set of financial statements presents for a challenge for setting covenants. It is therefore recommended that ADB work with DPTSC to develop assurances that bring focus to DPTSC's commercial and technical performance.	<p>Annually submit to ADB a summary of DPTSC's expenditure, including comparisons with previous years and budgets/forecasts for subsequent years (in a format to be developed in conjunction with ADB)</p> <p>Annually submit to ADB (and/or publish on MOEE's website) operational and commercial reports such as:</p> <p>a. network availability;</p> <p>b. transmission reliability indices including Transmission System Average Interruption Duration Index (TSAIDI); and Transmission System Average Interruption Frequency Index (TSAIFI).</p>

ADB = Asian Development Bank; DPTSC = Department of Power Transmission and System Control; ESE = Electricity Supply Enterprise; OAG = Office of the Auditor General; MOEE = Ministry of Electricity and Energy; PIC = project implementation consultant; SAIDI = System Average Interruption Duration Index; SAIFI = System Average Interruption Frequency Index; TSAIDI = Transmission System Average Interruption Duration Index; TSAIFI = Transmission System Average Interruption Frequency Index.

## B. Disbursement

### 1. Disbursement Arrangements for ADB Funds

18. The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement*



*Handbook* (2017, as amended from time to time),<sup>6</sup> and detailed arrangements agreed upon between the government and ADB. Online training for project staff on disbursement policies and procedures is available.<sup>7</sup> Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

19. Payments for goods, works and consulting services will be disbursed by ADB through commitment and direct payment procedures as applicable, and should be certified by the respective PMUs and DPTSC/ESE based on the payment terms in the contracts. The PMUs, through DPTSC, ESE and MOEE, 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 contractor or consultant and approved by the borrower's authorized representative.

20. Before the submission of the first withdrawal application (WA), 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 government, together with the authenticated specimen signatures of each authorized person. The minimum value per WA is stipulated in the *Loan Disbursement Handbook* (2017, as amended from time to time). Individual payments below such amount should be paid by the MOEE, DPTSC or ESE and subsequently claimed to ADB through reimbursement, unless otherwise accepted by ADB. The borrower should ensure sufficient category and contract balances before requesting disbursements.

## **2. Disbursement Arrangements for Counterpart Fund**

21. Counterpart fund will finance the costs for environmental safeguard measures, land acquisition, compensation and project management. MOEE, DPTSC and ESE will be responsible for requesting budget allocation for the counterpart fund from the Ministry of Finance. Disbursement and liquidation of counterpart fund will follow government procedures.

### **C. Accounting**

22. MOEE, DPTSC and ESE as appropriate will maintain separate books and records by funding source for all expenditures incurred on the project following accrual-based accounting following the International Financial Reporting Standards. MOEE, DPTSC and ESE as appropriate 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 and Public Disclosure**

23. MOEE 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 together with the auditor's opinion will be presented in the English language to ADB within 6 months from the end of the fiscal year by the MOEE.

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<sup>6</sup> The handbook is available electronically from the ADB website (<http://www.adb.org/documents/loan-disbursement-handbook>).

<sup>7</sup> Disbursement eLearning. [http://wpqr4.adb.org/disbursement\\_elearning](http://wpqr4.adb.org/disbursement_elearning)

24. MOEE will also cause 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 ESE financial statements, together with the auditors' report and management letter, will be submitted in the English language to ADB within 1 month after their approval by the relevant authority, but within 6 months from the end of each fiscal year. Since DPTSC is no longer preparing financial statements, MOEE will cause DPTSC to prepare annual statutory report about its expenditures and budgets and submit to ADB.

25. The audit report for the project financial statements will include a management letter and auditor's opinions, which cover (i) whether the project financial statements present an accurate and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting standards; (ii) whether the proceeds of the loan were used only for the purpose(s) of the project; and (iii) whether the borrower or executing agency was in compliance with the financial covenants contained in the legal agreements (where applicable).

26. Compliance with financial reporting and auditing requirements will be monitored by review missions, and followed up regularly with all concerned, including the external auditor.

27. The government, MOEE, DPTSC and ESE have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.<sup>8</sup> 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.

28. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's Public Communications Policy 2011.<sup>9</sup> After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter, additional auditor's opinions, and audited entity financial statements will not be disclosed.<sup>10</sup>

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<sup>8</sup> ADB's approach and procedures regarding delayed submission of audited project financial statements:

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

<sup>9</sup> Public Communications Policy: <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

<sup>10</sup> This type of information would generally fall under public communications policy exceptions to disclosure. ADB. 2011. *Public Communications Policy*. Paragraph 97(iv) and/or 97(v).

## **VI. PROCUREMENT AND CONSULTING SERVICES**

### **A. Advance Contracting**

29. All advance contracting will be undertaken in conformity with ADB Procurement Guidelines (2015, as amended from time to time) and ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). The issuance of invitations to bid under advance contracting will be subject to ADB approval. The borrower, MOEE, DPTSC and ESE have been advised that approval of advance contracting does not commit ADB to finance the project.

30. Advance contracting will be undertaken for the (i) recruitment of the PICs for the transmission and distribution components; and (ii) procurement of plant-design, supply and installation contracts for the 230 kV Mawlamyine-Ye-Dawei subproject (transmission line and substation).

### **B. Procurement of Goods, Works, and Consulting Services**

31. All procurement of goods and works will be undertaken in accordance with ADB's Procurement Guidelines (2015, as amended from time to time).

32. The project involves the procurement of three (3) plant-design, supply and installation and one (1) IT products/services contracts under the transmission component; and seven (7) goods and one (1) IT products/services contracts under the distribution component. International competitive bidding with single-stage one-envelop method will be used for the procurement of these contracts, which have estimated contract values above the ADB thresholds of \$3 million for works/plant and \$1 million for goods in Myanmar. ADB's prior review procedures will be followed. MOEE, DPTSC and ESE agreed to include the relevant sections of ADB's Anticorruption Policy (1998) in all bidding and contractual documents.

33. Line installation works (6 lots), substation installation works (6 lots) and supply of concrete poles (11 lots) will be undertaken through national competitive bidding (NCB) using ADB's standard bidding documents for small works. Before the start of any procurement, ADB and the government will review the public procurement laws of the central and state governments to ensure consistency with ADB's Procurement Guidelines (2015, as amended from time to time).

34. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and NCB guidelines is in Section C.

35. The Project Implementation Consultants (PICs) for the transmission and distribution components will be recruited according to ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).<sup>11</sup> The terms of reference for the PICs are outlined in Section D. An estimated 281 person-months (119 international, 162 national) of consulting services are required for the transmission component and 300 person-months (116 international, 184 national) for the distribution component to (i) support the PIU in project implementation, monitoring, and reporting; and (ii) strengthen the institutional and operational capacity of the MOEE, DPTSC and ESE.

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<sup>11</sup> 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/>

**C. Procurement Plan**

**Table 13. Basic Data**

<b>Project Name:</b> MYA: Power Network Development Project	
<b>Project Number:</b> 50020-002	<b>Approval Number:</b>
<b>Country:</b> Myanmar	<b>Executing Agency:</b> Ministry of Electricity and Energy (MOEE)
<b>Project Procurement Classification:</b> B	<b>Implementing Agency:</b> Department of Power Transmission and System Control (DPTSC) and Electricity Supply Enterprise (ESE)
<b>Procurement Risk:</b> Substantial	
<b>Project Financing Amount:</b> \$308.9 million <b>ADB Financing:</b> \$298.9 million <b>Cofinancing (ADB Administered):</b> <b>Non-ADB Financing:</b> \$10 million (government counterpart)	<b>Project Closing Date:</b>
<b>Date of First Procurement Plan:</b> 31 January 2018	<b>Date of this Procurement Plan:</b> 5 September 2018

ADB = Asian Development Bank; Department of Power Transmission and System Control (DPTSC) and Electricity Supply Enterprise (ESE).

**1. Methods, Thresholds, Review and 18-Month Procurement Plan**

**a. Procurement and Consulting Methods and Thresholds**

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

**Table 14. Procurement and Consulting Methods and Thresholds**

<b>Procurement of Goods and Works</b>		
<b>Method</b>	<b>Threshold</b>	<b>Comments</b>
International Competitive Bidding (ICB) for Works	\$3,000,000	
ICB for Goods	\$1,000,000	
National Competitive Bidding (NCB) for Works	Beneath that stated for ICB, Works	
NCB for Goods	Beneath that stated for ICB, Goods	
Shopping for Works	Below \$100,000	
Shopping for Goods	Below \$100,000	

<b>Consulting Services</b>	
<b>Method</b>	<b>Comments</b>
Quality and Cost Based Selection (QCBS)	

ICB = International Competitive Bidding (ICB); NCB = National Competitive Bidding; QCBS = Quality and Cost Based Selection.

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

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

**Table 15. Goods and Works Contracts Estimated to Cost \$1 Million or More**

Package Number	General Description	Estimated Value (\$ million)	Procurement Method	Review [Prior / Post/Post (Sampling)]	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	<b>Transmission Component</b>						
1	Design, Supply, Installation and Commissioning of 230kV Alone-Thida Transmission Line with Substation	25.154	International Competitive Bidding (ICB)	Prior	1S1E	Q2 2019	Plant
2	Design, Supply, Installation and Commissioning of 230kV Maylamine-Ye-Dawei Substation	22.265	ICB	Prior	1S1E	Q3 2018	Plant
3	Design, Supply, Installation and Commissioning of 230kV Maylamine-Ye-Dawei Transmission Line	92.061	ICB	Prior	1S1E	Q3 2018	Plant
4	Computerized Asset Management System (CAMS)	3.633	ICB	Prior	1S1E	Q1 2021	IT Products and Services
	<b>Distribution Component</b>						
2	Supply and Delivery of Transformers to:						
	Lot 1: Ayeyarwady	2.277	ICB	Prior	1S1E	Q4 2019	Goods
	Lot 2: Bago + Mon	2.091	ICB	Prior	1S1E	Q4 2019	Goods
	Lot 3: Kayin	1.575	ICB	Prior	1S1E	Q4 2019	Goods
	Lot 4: Rakhine	1.656	ICB	Prior	1S1E	Q4 2019	Goods
3	Supply and Delivery of Switchgears and Accessories	29.674	ICB	Prior	1S1E	Q4 2019	Goods
4	Supply and Delivery of Conductors and Cables	13.936	ICB	Prior	1S1E	Q4 2019	Goods
5	Supply and Delivery of Insulators	7.905	ICB	Prior	1S1E	Q2 2020	Post-qualification; Goods
6	Supply and Delivery of Fittings and Clamps	4.782	ICB	Prior	1S1E	Q2 2020	Goods
7	Supply and Delivery of Pole Line Hardware and Steel Parts	9.159	ICB	Prior	1S1E	Q2 2020	Goods
8	Lines Installation Works						
	Lot 1: Ayeyarwady	1.118	National Competitive Bidding (NCB)	Prior	1S1E	Q3 2020	Small Works
	Lot 5: Kayin	1.629	NCB	Prior	1S1E	Q3 2020	Small Works
	Lot 6: Rakhine	1.170	NCB	Prior	1S1E	Q3 2020	Small Works

Package Number	General Description	Estimated Value (\$ million)	Procurement Method	Review [Prior / Post/Post (Sampling)]	Bidding Procedure	Advertisement Date (quarter/year)	Comments
9	Substation Installation Works						
	Lot 1: Ayeyarwady	2.434	NCB	Prior	1S1E	Q3 2020	Small Works
	Lot 2: Bago East	1.000	NCB	Prior	1S1E	Q3 2020	Small Works
	Lot 3: Bago West	1.133	NCB	Prior	1S1E	Q3 2020	Small Works
	Lot 4: Mon	1.205	NCB	Prior	1S1E	Q3 2020	Small Works
	Lot 5: Kayin	1.752	NCB	Prior	1S1E	Q3 2020	Small Works
	Lot 6: Rakhine	1.843	NCB	Prior	1S1E	Q3 2020	Small Works
10	Computerized Customer Billing System (CBBS)	3.633	ICB	Prior	1S1E	Q1 2021	IT Products and Services

CAMS = Computerized Asset Management System; CCBS = Computerized Customer Billing System; ICB = International Competitive Bidding; NCB = National Competitive Bidding.

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

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

**Table 16. Consulting Services Contracts Estimated to Cost \$100,000 or More**

Package Number	General Description	Estimated Value (\$ million)	Recruitment Method	Review (Prior / Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
5	Project Implementation Consultant – Transmission	5.454	QCBS	Prior	Q2 2018	FTP	International assignment; 90:10 quality-cost ratio; excluding taxes and duties
11	Project Implementation Consultant – Distribution	5.027	QCBS	Prior	Q2 2018	FTP	International assignment; 90:10 quality-cost ratio; excluding taxes and duties

FTP = Full Technical Proposal; QCBS = Quality and Cost Based Selection.

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

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

**Table 17. Goods and Works Contracts Estimated to Cost Less than \$1 Million**

Goods and Works								
Package Number	General Description	Estimated Value (\$ million)	Number of Contracts	Procurement Method	Review [Prior / Post/Post (Sampling)]	Bidding Procedure	Advertisement Date (quarter/year)	Comments
1	Supply and Delivery of Concrete Poles to:							
	Ayeyarwady (2 lots)	1.485	2	National Competitive Bidding (NCB)	Prior	1S1E	Q2 2020	Goods
	Bago East and Bago West (2 lots)	1.100	2	NCB	Prior	1S1E	Q2 2020	Goods
	Mon (2 lots)	1.097	2	NCB	Prior	1S1E	Q2 2020	Goods
	Kayin (3 lots)	2.229	3	NCB	Prior	1S1E	Q2 2020	Goods
	Rakhine (2 lots)	1.506	2	NCB	Prior	1S1E	Q2 2020	Goods
8	Lines Installation Works							
	Lot 2: Bago East	0.126	1	NCB	Prior	1S1E	Q3 2020	Small Works
	Lot 3: Bago West	0.665	1	NCB	Prior	1S1E	Q3 2020	Small Works
	Lot 4: Mon	0.776	1	NCB	Prior	1S1E	Q3 2020	Small Works

NCB = National Competitive Bidding.

**Table 18. Consulting Services Contracts Less than \$100,000**

Consulting Services								
Package Number	General Description	Estimated Value	Number of Contracts	Recruitment Method	Review (Prior / Post)	Advertisement Date (quarter/year)	Type of Proposal <sup>8</sup>	Comments <sup>9</sup>
	None							

## 2. 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).

**Table 19. Indicative List of Packages Required Under the Project (Goods and Works)**

Goods and Works							
Package Number <sup>5</sup>	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Review [Prior / Post/Post (Sampling)]	Bidding Procedure <sup>6</sup>	Comments <sup>7</sup>
	None						

**Table 20. Indicative List of Packages Required Under the Project (Consulting Services)**

Consulting Services							
Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Review (Prior / Post)	Type of Proposal <sup>8</sup>	Comments <sup>9</sup>
	None						

**3. List of Awarded and On-going, and Completed Contracts**

41. The following tables list the awarded and on-going contracts and completed contracts.

**a. Awarded and On-going Contracts [not yet applicable]**

**Table 21. Awarded and Ongoing Contracts (Goods and Works)**

Goods and Works							
Package Number	General Description	Estimated Value	Awarded Contract Value	Procurement Method	Advertisement Date (quarter/year)	Date of ADB Approval of Contract Award <sup>10</sup>	Comments <sup>11</sup>

<sup>10</sup> Date of ADB Approval of Contract Award is the date of No-Objection letter to the EA/IA.

<sup>11</sup> Indicate the Contractor's name and the contract signing date.

**Table 22. Awarded and Ongoing Contracts (Consulting Services)**

Consulting Services							
Package Number	General Description	Estimated Value	Awarded Contract Value	Recruitment Method	Advertisement Date (quarter/year)	Date of ADB Approval of Contract Award <sup>10</sup>	Comments <sup>12</sup>

<sup>10</sup> Date of ADB Approval of Contract Award is the date of No-Objection letter to the EA/IA.

<sup>12</sup> Indicate the Consulting Firm's name and the contract signing date.

**b. Completed Contracts [not yet applicable]**



**Table 23. Completed Contracts (Goods and Works)**

Goods and Works								
Package Number	General Description	Estimated Value	Contract Value	Procurement Method	Advertisement Date (quarter/year)	Date of ADB Approval of Contract Award <sup>10</sup>	Date of Completion <sup>13</sup>	Comments

<sup>10</sup> Date of ADB Approval of Contract Award is the date of No-Objection letter to the EA/IA.

<sup>13</sup>The Date of Completion is the physical completion date of the contract.

**Table 24. Completed Contracts (Consulting Services)**

Consulting Services								
Package Number	General Description	Estimated Value	Contract Value	Recruitment Method	Advertisement Date (quarter/year)	Date of ADB Approval of Contract Award <sup>10</sup>	Date of Completion <sup>13</sup>	Comments

<sup>10</sup> Date of ADB Approval of Contract Award is the date of No-Objection letter to the EA/IA.

<sup>13</sup>The Date of Completion is the physical completion date of the contract.

#### 4. Non-ADB Financing

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

**Table 25. Goods and Works Contracts Financed by Non-ADB Sources**

Goods and Works				
General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Comments
None				

**Table 26. Consulting Services Contracts Financed by Non-ADB Sources**

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

#### 5. National Competitive Bidding

##### a. Regulation and Reference Documents

43. The procedures to be followed for NCB shall be those set forth in ADB's standard bidding documents, with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of ADB's Procurement Guidelines (2015, as amended from time to time).

**b. Procurement Procedures**

**(i). Application**

44. Contract packages subject to NCB procedures will be those identified as such in the project procurement plan. Any changes to the method of procurement from those provided in the procurement plan shall be made through updating of the procurement plan, and only with prior approval of ADB.

**(ii). Eligibility**

45. The eligibility of bidders shall be as defined under section I of the Procurement Guidelines; accordingly, no bidder or potential bidder should be declared ineligible for reasons other than those provided in section I of the Guidelines, **as amended from time to time**.

**(iii). Sanctioning**

46. Bidders shall not be declared ineligible or prohibited from bidding on the basis of barring procedures or sanction lists, except individuals and firms sanctioned by ADB, without prior approval of ADB.

**(iv). Advertising**

47. The posting of NCB specific notices for contracts valued at less than \$1 million on ADB's website is not required but is highly recommended

**(v). Rejection of all Bids and Rebidding**

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

**c. Bidding Documents**

**6. ADB Policy Clauses**

49. A provision shall be included in all NCB works and goods contracts financed by ADB requiring suppliers and contractors to permit ADB to inspect their accounts and records and other documents relating to the bid submission and the performance of the contract, and to have them audited by auditors appointed by ADB.

50. A provision shall be included in all bidding documents for NCB works and goods contracts financed by ADB stating that the Borrower shall reject a proposal for award if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question.

51. A provision shall be included in all bidding documents for NCB works and goods contracts financed by ADB stating that ADB will declare a firm or individual ineligible, either indefinitely or for a stated period, to be awarded a contract financed by ADB, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices or any integrity violation in competing for, or in executing, ADB-financed contract.

## D. Consultant's Terms of Reference

### 1. Transmission Component

52. **Project Scope:** The Project consists of design, supply, installation and commissioning of a 230 kV transmission line between Ahlone and Thida substations with 230/66/11 kV 150 MVA Ahlone substation, 230/66/11 kV (3 x 150 MVA) GIS Thida substation; a 230 kV Mawlamyine–Ye–Dawei transmission line with 230/66/11 kV (2 x 50 MVA) Ye substation and 230/66/11 kV (2 x 50 MVA) Dawei substation. The project also includes a computerized asset management system (CAMS) for DPTSC to manage their physical assets from acquisition through disposal efficiently, which includes request and approval process, procurement management, life cycle management, redeployment and disposal management.

53. **Objective of the Assignment:** The service of a Project Implementation Consultant (PIC) is required to assist DPTSC and MOEE throughout the project implementation process, from procurement, deployment of CAMS, construction and commissioning of transmission lines and substations. The main tasks are (but not limited to): (i) conduct procurement of project packages; supervise project construction and management, including design, supply, installation, and commissioning works by the Engineering, Procurement and Construction (EPC) contractors; (ii) update, obtain approval by ADB of the updated and then implement the updated resettlement and ethnic group development plan and EMP in accordance with the Government and ADB safeguard policies; (iii) assist DPTSC in project monitoring and reporting in compliance with loan covenants; and (iv) assist and build capacity for DPTSC and PMU/PIU in financial management, disbursements, reporting, social & environmental planning, coordination with stakeholders, and overall project implementation, monitoring, and evaluation of the project's progress.

54. **List of Experts:** The services of a multidisciplinary team will be required consisting of various specialists – both international (119 person-months) and national (162 person-months) as shown in the Team Composition Table below.

**Table 27. List of Experts (Transmission Component)**

<b>Positions</b>	<b>Number</b>	<b>Person–Months</b>
<b>International</b>	<b>9</b>	<b>119</b>
Transmission Engineer - Team leader	1	36
Substation Engineer – Deputy team leader	1	24
Communication System Specialist	1	6
Civil Engineer	1	9
Procurement Specialist	1	6
Financial Specialist	1	12
Environment Specialist	1	10
Social Resettlement Specialist	1	10
IT-Computerized Asset Management System Expert	1	6
<b>National</b>	<b>11</b>	<b>162</b>
Transmission Engineer	2	40
Substation Engineer	2	30
Civil Engineer	2	18
Financial Specialist	1	20
Environment Specialist	2	20
Resettlement Specialist	1	10
Stakeholder Communication Specialist	1	24
<b>Total</b>	<b>20</b>	<b>281</b>

55. **Tasks:** Detailed tasks of the PIC consultant are given below. The PIC will work closely with DPTSC/PMU and MOEE, and will assist DPTSC/PMU in the following, but not limited to:

**a. Task 1: Project Procurement**

- (i) Review and validate bidding documents for transmission lines and substations prepared by DPTSC/PMU including re-engineering technical designs as necessary. Finalize the bidding documents and obtain approval by Government and ADB. This includes three contract packages as per procurement plan. In addition, Surveying, Designing and Preparing bidding document are required for 230 kV Alone- Thida transmission line and substation project.
- (ii) Assess the current assets management system of DPTSC and propose technical solutions for a CAMS tailored to DPTSC, and prepare bidding document for CAMS package including technical design and specifications, bill of quantities, cost estimation, etc.
- (iii) Ensure that all requirements related to environment, resettlement, safety and other covenanted aspects are included in the bidding documents and relevant contracts.
- (iv) Assist DPTSC/PMU with procurement processes of each bidding package: invitation for bids, bid opening, bid evaluation and approval, contract negotiation and award.
- (v) Recommend appropriate procurement methods and prepare additional bidding packages for utilizing loan savings, if any, or change of scope as necessary.

**b. Task 2: Update and implement resettlement and ethnic group development plan (REGDP)**

- (i) Provide guidance to the executing agencies, the implementing agency, and the PMU and PIUs on social safeguards aspects of the project with emphasis on land acquisition, compensation, livelihoods restoration, compliance monitoring and reporting.
- (ii) Provide training to the staff of the Project's Implementation Agency, the Project's Implementation Unit as well as the Project's Management Unit on national safeguards policy and ADB safeguards policy and their application. The training should include key concepts on the resettlement management process, demonstrating methods of implementing the REGDPs in a timely manner.
- (iii) Based on the approved technical design and bidding documents, as well as the review and update of the REGDPs the following activities should be carried out:
  - a) Conduct a detailed measurement survey (DMS) of affected assets and confirm the amount of permanent and temporary loss of land and assets.
  - b) Conduct an asset registration survey to confirm all the impacted assets, impacted households, and the number of severely affected households due to the loss of productive agricultural land and residential structures.
  - c) Provide maps with geo references (e.g., MapInfo, GIS, AutoCAD) of the affected villages and all the affected land (government and privately

- owned land) using unique household identifiers to link HH documents and surveys to land.
- d) Provide photos of each of the affected households (preferably with all persons present) to be taken in front of their abode, with their household ID (unique identifier). Consent should be sought prior to taking photos and should the household refuse, a signed letter declining the photo is to be provided.
  - e) All documents (IoL, DMS, compensation forms, grievances) should include the household IDs (unique identifier) and should be submitted both in document and e-file formats.
  - f) Conduct a social assessment and document the affected people's preferences regarding rehabilitation measures as well as design mitigation measures to address the affected peoples' concerns.
  - g) Identify and design appropriate livelihoods support programs and allowances to severely affected people and vulnerable people in accordance with the REGDP.
  - h) Identify and provide special measures to assist vulnerable households.
  - i) Update the project specific entitlement matrix and the compensation costs.
  - j) Implement the updated REGDP in a timely manner to meet the project's schedule.
- (iv) Conduct a replacement cost survey to establish the current market prices of the assets that the affected people are to be compensated for, assist the government in consultations with the affected people and to arrive at the unit rates for compensation.
  - (v) Together with the communication specialist, conduct meaningful consultations with the affected people and stakeholders that encompass:
    - a) Review and provide recommendations to the communication strategies to ensure effective communication with the affected peoples, ethnic groups and stakeholders.
    - b) Disseminate information and undertake consultations with the public about the project, together with PMU/PIU.
    - c) Conduct consultations with affected households and representatives of the ethnic minorities.
    - d) Conduct regular field visits and whenever necessary during the construction to oversee the implementation of the REGDP.
    - e) Assist PMU/PIU in the issuing of notice to harvest crops, remove rubber trees and vacate the land per the schedule.
    - f) Organize and attain a track record of the dissemination of information and public participation including: (a) the number of public consultation meetings, (b) the number of affected households that participated, as well as (c) comments, suggestions, and concerns of the affected households and how these were addressed;
    - g) Ensure a smooth transition period between the payment of compensation and assistance provided to the affected people and the clearance of areas prior to the commencement of civil works.
    - h) Address gender concerns: ensure the participation of women in meetings and in the implementation of resettlement, and take notice of the concerns of women about their resettlement and the resolution of their grievances;

- i) Address ethnic groups concerns: ensure the participation of representatives of ethnic groups in meetings and in the implementation of resettlement, and take notice of the traditional or culture concerns of the ethnic groups about their resettlement and the resolution of their grievances;
- (vi) Provide special assistance, in the form of livelihoods support programs, to vulnerable households and households that will lose rubber plantations and/or should adhere to tree or crops' height restrictions, in accordance with the entitlement matrix defined in the REGDPs.
- (vii) Assist the executing agency and PIU to monitor the resettlement and compensation processes, comprising the following
  - a) Provide guidance to GAD on the preparation of monthly progress reports on the implementation of the REGDPs.
  - b) Prepare quarterly progress reports on the implementation of the REGDPs.
  - c) Prepare compensation completion reports.
  - d) Prepare annual social monitoring reports.
- (viii) Grievance Redress Mechanism:
  - a) Assist the executing agency in the development of a practical and operationalize grievance redress mechanism (GRM).
  - b) Maintain a track record of the number of affected people with complaints, the nature of these complaints, the status of the resolution of the complaints, as well as provide an assessment of the efficiency of the GRM.

**c. Task 3: Construction Supervision**

This task includes all necessary activities for deployment of CAMS and implementation of EPC contract for transmission lines and substations. The details are as follow:

- (i) Comprehensive review and approval of the contractors' detailed field designs;
- (ii) Review and approve the equipment drawings, calculations, delivery program, and documents submitted by contractors;
- (iii) Witness and participate (if necessary) factory inspections and performance tests within the framework of the contracts;
- (iv) Supervise overall construction works. Identify any problem during project implementation, propose remedial actions, and promptly report any outstanding issues to DPTSC/PMU;
- (v) Conduct regular field visits and whenever necessary during construction, installation, testing, and commissioning works;
- (vi) In line with the work programs of the contractors, prepare and advise DPTSC/PMU on the outage planning of existing facilities during implementation. The outage planning will be modified/ updated regularly and take into account any unplanned outages resulting from any faults arising in the network;
- (vii) Coordinate safety measures between live components in operation and components under commissioning; give advice and conduct training to DPTSC/PMU on safety planning and safety measures prior/after construction works;

- (viii) Attend the commissioning; review and approve the commissioning test reports submitted by the contractors; establish the list of deficiencies after commissioning; and prepare a timeframe for the contractors to remedy the deficiencies, and establish a monitoring program for this purpose;
- (ix) Review and approve the as-built drawings and operations and maintenance manuals;
- (x) Advise DPTSC/PMU on any contractual or technical disputes that may arise between contractors and DPTSC/PMU during the implementation phase;
- (xi) Advise DPTSC/PMU and seek approval from ADB for any proposed contract amendments or variation orders to be issued to the contractors;
- (xii) Review and approve the contractors' invoices and assist DPTSC/PMU in the preparation of the withdrawal applications; and
- (xiii) Prepare and issue the provisional acceptance certificate for the works as well as for spare parts; prepare the final taking over certificate, the final payments to contractors to be issued by DPTSC/PMU after the end of the warranty period and the completion of remedies for all deficiencies.

**d. Task 4: Environment**

- (i) Assist the DPTSC PMU ensure that the IEEs and EMPs are updated, submitted to ADB for review and included in the bidding documents and civil works contracts;
- (ii) Prior to construction, organize a training for the DPTSC PMU and PIUs on how the environmental aspects of the project will be monitored, giving emphasis on Contractors' Environmental Management Plan (CEMP) evaluation; compliance monitoring of construction activities and preparation of corresponding reports; supervision responsibilities and interaction with Contractors; and documentation, resolution and reporting of non-compliance issues and complaints; and provide on job trainings throughout the project implementation period;
- (iii) Provide guidance to the PMU and PIUs environment safeguard officers on the environmental aspects of the project with emphasis on compliance monitoring and reporting;
- (iv) Assist the PMU establish and operate the grievance redress mechanism;
- (v) Evaluate the environmental aspects of the Contractors' construction methodology and recommend corrective action needed to the PMU, if any, to make the methodology environmentally acceptable;
- (vi) Review the CEMPs and recommend modifications to the PMU to be compliant with: (a) the environmental requirements of the construction contracts as reflected in the EMP, (b) the conditions of environmental approvals of the Ministry of Natural Resources and Environmental Conservation (MONREC) and the Environmental Compliance Certificate, and (c) ADB's Safeguards Policy Statement (SPS, 2009);
- (vii) Develop the compliance monitoring system to be used during the construction period for monitoring the Contractors' performance relative to the environmental requirements, including the preparation of: (a) monitoring and corrective action forms/checklists, (b) inspection procedures, and (c) documentation procedures;

- (viii) Conduct orientation sessions with the Contractors on the compliance monitoring system to be used, notification of non-compliance, and the process of requiring Contractors to implement corrective measures when necessary;
- (ix) Provide guidance to the Contractors as to how their respective CEMPs will be implemented including the: (a) requirements for each mitigation measure, and (b) implementation schedule of each mitigation measure taking into consideration the general requirement that the PIC will not approve the start of any specific construction activity if the associated mitigation measures for such activity are not ready before work commences;
- (x) Supervise the implementation of CEMPs;
- (xi) Sub-contract Environment Quality Monitoring Contractors and Supervise all ambient environmental monitoring (water quality, air quality, and noise levels) conducted by these Environmental Quality Monitoring Contractors;
- (xii) Evaluate the Contractors' submitted works activities and schedules relative to the requirements of the approved CEMPs;
- (xiii) Undertake monthly inspection, monitoring and reporting of construction sites and all construction-related facilities (workers' camps, borrow pits, disposal sites for spoil and unsuitable materials, equipment maintenance areas, fuel and materials storage sites, project-specific quarries and crushers, etc.) to assess the Contractors' compliance with the CEMP.
- (xiv) Through the PMU, require the Contractors to update their respective CEMPs when necessary;
- (xv) Monitor the Contractors' compliance with health and safety requirements of the project as stipulated in the contract documents;
- (xvi) Prepare monthly monitoring reports for submission to the PMU and semi-annual environmental safeguard monitoring reports, as required by Environment Conservation Department (ECD) and ADB, for submission to PMU and DPTSC; and
- (xvii) Upon completion of construction, prepare a report on the project's environmental compliance performance, including lessons learned that may help DPTSC in its environmental monitoring of future projects. The report will be an input to the overall project completion report.

**e. Task 5: Project Administration**

- (i) Set up a project performance monitoring program with measurable indicators, keep records of project performance, keep records of all correspondence between DPTSC/PMU, contractors, PIC and ADB.
- (ii) Prepare the overall disbursement plan under the Project, monitor costs, and maintain project accounts.
- (iii) Monitor the execution of the Project in line with the Project time schedules and work programs provided by contractors.
- (iv) Update the project disbursement schedule and physical target accomplishment; keep records of any disbursement under the Project; prepare and update on a regular basis the projected disbursement schedule.



- (v) Update regularly the Project Administration Manual (PAM) taking into account the changes in the project organization, disbursement progress project time schedule, and other significant issues.
- (vi) Prepare regular project progress reports in accordance with ADB requirements for submission to DPTSC/PMU and ADB.
- (vii) Provide on-the-job training to DPTSC/PMU staff and PMU/PIU in the fields of financial management, procurement, contract management, as well as technical, environmental, and social issues.

**f. Task 6: Reporting**

The PIC will prepare the following reports (in addition to the required deliverables under each of the Tasks mentioned above):

- (i) Inception Report – demonstrating consultant mobilization, methodology to implement each task, communication etc., and stock taking of the pre-construction activities, to be submitted within two months from start of the services.
- (ii) Monthly Activity Report (to be submitted within 10 days after each calendar month from start of services) – a brief 3-page report on activities carried out and issues that occur in the month; to include a bar chart (with monthly percentage accomplishment) listing important activities and deliverables or reports to be completed per TOR.
- (iii) Quarterly Project Monitoring Reports (to be submitted within 15 days after the end of each quarter which could be a consolidation of the previous 3 monthly activity reports) - to include but not limited to: Introduction and basic data; procurement activities undertaken, Utilization of the ADB loan and counterpart funds; Status of project scope/implementation arrangements, assessment of changes in key assumptions and risks, etc; Implementation progress; Compliance with the loan assurances; Major project issues and problems.
- (iv) Updated REGDP, IEE and EMP and its implementation, report on the implementation and completion of the REGDP, IEE and EMP.
- (v) Semi-annual environmental monitoring reports.
- (vi) Project mid-term review report (to be prepared after the ADB mid-term review).
- (vii) Project Completion Report.

**g. Task 7: Financial Management**

- (i) Assist MOEE and DPTSC/PMU establish and maintain the appropriate budgets for the Project ensuring that Project activities, contracts and disbursements are included in the Government of Myanmar's Budget for of MOEE leading to financial commitments by the Government for Myanmar's Annual Budget allocations.
- (ii) Assist MOEE and DPTSC/PMU establish and maintain project accounts (accounting and financial management systems and records) in compliance with the procedures and guidelines of the Government and the ADB.

- (iii) Assist MOEE/DPTSC/PMU maintain proper internal controls over the financial operations of the Project, particularly for bank accounts and cash advances.
- (iv) Assist MOEE approve expenditures; assist DPTSC with preparation of withdrawal, check contractor invoices.
- (v) Prepare a section on finance for regular project reporting (quarterly project reports).
- (vi) Assist MOEE/DPTSC/PMU record, manage and administer all financial transactions under the Project.
- (vii) Assist DPTSC/PMU prepare the project financial statements, entity financial statements (statutory reports) and any financial reports as required by ADB in a timely manner.
- (viii) Assist MOEE and DPTSC/PMU facilitate the audit of the project financial statements, and entity financial statements (statutory reports) by OAG or other external auditors acceptable to ADB, in a timely manner for submission to ADB.
- (ix) Ensure that the audited reports to be/is submitted to ADB are translated in English and the English translation is properly signed off by the external auditors.
- (x) Provide on-the-job training and develop staff capability to counterpart MOEE and DPTSC/PMU staff on all aspects of financial management and project reporting processes and procedures in accordance with ADB standards and guidelines.

#### **h. Task 8: Public consultation and communication**

- (i) Communication Based Assessment (CBA). Continue/Revise identifying stakeholders' priority communication needs, assessing key information gaps and communication barriers, and the provision of an overview of how the stakeholders primarily receive and process information, strategic approaches and materials for engaging stakeholders through various communication channels to enhance information sharing and consensus building;
- (ii) Stakeholder Communication Strategy (SCS). Review and revise existing strategy based on CBA findings. Strategy should include components for:
  - a) Sharing Information: ensuring a regular two-way flow of culturally appropriate information about the project to affected persons and other key stakeholders.
  - b) Raising Awareness: raise awareness of the project's scope, benefits and impacts, structured to foster understanding and acceptance of the project.
  - c) Ensuring Feedback: identify best means of ensuring that project affected people and other stakeholders can provide feedback that will be considered by project staff during project design and implementation.
  - d) Consultations and Dialogue Support: ensure necessary communications support is provided in support of consultations, as needed. Ensure stakeholder concerns are identified, recorded and that key stakeholders understand how their inputs are being shared and responded to.
  - e) Local Involvement: ensure local officials and relevant village leaders

are consulted and involved to foster understanding and acceptance of the project.

- f) Coordinated Communications: develop a communication coordinating mechanism to ensure the effective information sharing, feedback and stakeholder involvement.
- (iii) Support Implementation of SCS: Work with designated MOEE (DPTSC) communications focal points in two project implementation regions, a senior Communication Focal person in Nay Pyi Taw and other project staff in implementing relevant early-stage components of the SCS.
- (iv) Oversee IEC Production: Based on feedback from the CBA and SCS, and community feedback and identified information needs, develop a range of information materials, including a user-friendly version of the project information booklet, Q&As, brochures, maps, and other relevant materials;
- (v) Communication Support for Consultants and Community Engagement: Provide support to project team in their communications and interactions with affected people and other project stakeholders.
- (vi) Assess MOEE/DPTSC Communications capacity to implement SCS: Pursuant to the SCS, assess government counterparts' capacity to implement communication components of the project. Identify priority areas for capacity building, then outline and implement a training and capacity building program for relevant MOEE (DPTSC) staff. This should be done in close coordination with project staff and consultants involved with safeguard component of the project.

**i. Other tasks**

56. Apart from the above defined tasks, the PIC is required to perform from time to time, any other project-related tasks as may be requested by EA, IA and DPTSC/PMU the successful implementation and completion of the Project.

57. **Qualification requirement and team composition.** Detailed qualification requirement and team composition are given below.

- (i) The international consultants should have a university degree in related fields, preferably at post-graduate degree and with at least seven years of relevant professional experience in the power sector including transmission and substation system to undertake the responsibilities mentioned above.
- (ii) The national consultants shall have a bachelor's and preferably a post-graduate degree and at least 5 years of relevant professional experience. The experts should have a good knowledge of power transmission and substation sector in Myanmar;
- (iii) The team leader and the deputy team leader should have demonstrated working experience in design and/or construction of medium/high voltage transmission lines and substation;
- (iv) The team leader and the deputy team leader should have working experience at least as a team member of PIC in at least one ADB-financed project, evidenced by the past records;
- (v) The international environment specialist and the international social development specialist (resettlement) should have working experience as a member of an ADB financed project implementation consultant and/or project preparatory technical assistance;

- (vi) The international IT computerized asset management system expert should have project experiences and deep knowledge and skills of CAMS and other data and assets management tools such as SCADA, NEPLAN, PS-SMS, etc.,
- (vii) The team leader should be versed with the monitoring and reporting requirements in ADB-financed projects, demonstrated by past records; and
- (viii) The team leader should have demonstrated leadership ability in working in the less developing countries in Southeast Asia and able to adapt to working environment. Working experience in Myanmar will be an advantage.

## 2. Distribution Component

58. **Project Scope:** The Project consists of design, supply, installation and commissioning of expansion and rehabilitation of distribution systems (66/33/11 kV substations, 66 kV and 33 kV lines) in following states and regions: Ayeyarwady; Bago (east and west); Mon; Kayin, and Rakhine: upgrade 6 and construct new 42 substations and construct about 843 km distribution lines linking the substations. The project also includes a computerized customer billing system (CCBS) to be implemented in Nay Pyi Taw, Myanmar.

59. **Objective of the Assignment:** The service of a Project Implementation Consultant (PIC) is required to assist ESE and MOEE throughout the project implementation process, from procurement, construction, and commissioning. The main tasks are (but not limited to): (i) conduct procurement of project packages; supervise project implementation including material supply contracts, construction contracts and CCBS contract by the contractors; (ii) update, obtain approval by ADB of the updated and then implement the updated resettlement and ethnic group development plan and EMP in accordance with the Government and ADB safeguard policies; (iii) assist ESE in project monitoring and reporting in compliance with loan covenants; and (iv) assist and build capacity for ESE and PMU/PIU in financial management, disbursements, reporting, social & environmental planning, coordination with stakeholders, and overall project implementation, monitoring, and evaluation of the project's progress.

60. **List of Experts:** The services of a multidisciplinary team will be required consisting of various specialists – both international (116 person-months) and national (184 person-months) as shown in the Team Composition Table below.

**Table 28. List of Experts (Distribution Component)**

<b>Positions</b>	<b>Number</b>	<b>Person–Months</b>
<b>International</b>	<b>8</b>	<b>116</b>
Substation Engineer - Team leader	1	36
Distribution Engineer – Deputy team leader	1	24
Civil Engineer	1	7
Procurement Specialist	1	9
Financial Specialist	1	12
Environment Specialist	1	12
Social Resettlement Specialist	1	10
IT-Metering and Billing System Expert	1	6

<b>Positions</b>	<b>Number</b>	<b>Person–Months</b>
<b>National</b>	<b>12</b>	<b>184</b>
Substation Engineer	3	45
Distribution Engineer	3	45
Financial Specialist	1	20
Environment Specialist	3	36
Resettlement Specialist	1	14
Stakeholder Communication Specialist	1	18
IT-Metering and Billing System Expert	1	6
<b>Total</b>	<b>20</b>	<b>300</b>

61. **Tasks.** Detailed tasks of the PIC consultant are given below. The PIC will work closely with ESE/PMU and MOEE, and will assist ESE/PMU in the following, but not limited to:

**a. Task 1: Procurement**

- (i) Review and validate bidding documents for material supplies, construction packages prepared by ESE/PMU including re-engineering technical designs as necessary. Finalize the bidding documents and obtain approval by Government and ADB. This includes all contract packages as per procurement plan;
- (ii) Assess the current billing system of ESE and propose technical solutions for CCBS tailored to ESE, and prepare bidding document for CCBS package including technical design and specifications, bill of quantity, cost estimation, etc.,
- (iii) Ensure that all requirements related to environment, resettlement, safety and other covenanted aspects are included in the bidding documents and relevant contracts;
- (iv) Assist ESE /PMU with procurement processes of each bidding package: invitation for bids, bid opening, bid evaluation and approval, contract negotiation and award; and
- (v) Recommend appropriate procurement methods and prepare additional bidding packages for utilizing loan savings, if any, or change of scope as necessary;

**b. Task 2: Update and implement resettlement and ethnic group development plan (REGDP)**

- (i) Provide guidance to the executing agencies, the implementing agency, and the PMU and PIUs on social safeguards aspects of the project with emphasis on land acquisition, compensation, livelihoods restoration, compliance monitoring and reporting.
- (ii) Provide training to the staff of the Project's Implementation Agency, the Project's Implementation Unit as well as the Project's Management Unit on national safeguards policy and ADB safeguards policy and their application. The training should include key concepts on the resettlement management process, demonstrating methods of implementing the REGDPs in a timely manner.
- (iii) Based on the approved technical design and bidding documents, as well as the review and update of the REGDPs the following activities should be carried out:

- a) Conduct a detailed measurement survey (DMS) of affected assets and confirm the amount of permanent and temporary loss of land and assets.
  - b) Conduct an asset registration survey to confirm all the impacted assets, impacted households, and the number of severely affected households due to the loss of productive agricultural land and residential structures.
  - c) Provide maps with geo references (e.g., MapInfo, GIS, AutoCAD) of the affected villages and all the affected land (government and privately-owned land) using unique household identifiers to link HH documents and surveys to land.
  - d) Provide photos of each of the affected households (preferably with all persons present) to be taken in front of their abode, with their household ID (unique identifier). Consent should be sought prior to taking photos and should the household refuse, a signed letter declining the photo is to be provided.
  - e) All documents (IoL, DMS, compensation forms, grievances) should include the household IDs (unique identifier) and should be submitted both in document and e-file formats.
  - f) Conduct a social assessment and document the affected people's preferences regarding rehabilitation measures as well as design mitigation measures to address the affected peoples' concerns.
  - g) Identify and design appropriate livelihoods support programmes and allowances to severely affected people and vulnerable people in accordance with the REGDP.
  - h) Identify and provide special measures to assist vulnerable households.
  - i) Update the project specific entitlement matrix and the compensation costs.
  - j) Implement the updated REGDP in a timely manner to meet the project's schedule;
- (iv) Conduct a replacement cost survey to establish the current market prices of the assets that the affected people are to be compensated for, assist the government in consultations with the affected people and to arrive at the unit rates for compensation.
- (v) Together with the communication specialist, conduct meaningful consultations with the affected people and stakeholders that encompass:
- a) Review and provide recommendations to the communication strategies to ensure effective communication with the affected peoples, ethnic groups and stakeholders.
  - b) Disseminate information and undertake consultations with the public about the project, together with PMU/PIU.
  - c) Conduct consultations with affected households and representatives of the ethnic minorities.
  - d) Conduct regular field visits and whenever necessary during the construction to oversee the implementation of the REGDP.
  - e) Assist PMU/PIU in the issuing of notice to harvest crops, remove rubber trees and vacate the land according to the schedule.
  - f) Organize and attain a track record of the dissemination of information and public participation including: (a) the number of public consultation meetings, (b) the number of affected

- households that participated, as well as (c) comments, suggestions, and concerns of the affected households and how these were addressed;
- g) Ensure a smooth transition period between the payment of compensation and assistance provided to the affected people and the clearance of areas prior to the commencement of civil works.
  - h) Address gender concerns: ensure the participation of women in meetings and in the implementation of resettlement, and take notice of the concerns of women in connection with their resettlement and the resolution of their grievances;
  - i) Address ethnic groups concerns: ensure the participation of representatives of ethnic groups in meetings and in the implementation of resettlement, and take notice of the traditional or culture concerns of the ethnic groups in connection with their resettlement and the resolution of their grievances;
- (vi) Provide special assistance, in the form of livelihoods support programmes, to vulnerable households and households that will lose rubber plantations and/or will have to adhere to tree or crops' height restrictions, in accordance with the entitlement matrix defined in the REGDPs.
  - (vii) Assist the executing agency and PIU to monitor the resettlement and compensation processes, comprising the following
    - a) Provide guidance to GAD on the preparation of monthly progress reports on the implementation of the REGDPs.
    - b) Prepare quarterly progress reports on the implementation of the REGDPs;
    - c) Prepare compensation completion reports.
    - d) Prepare annual social monitoring reports.
  - (viii) Grievance Redress Mechanism:
    - a) Assist the executing agency in the development of a practical and operationalize grievance redress mechanism (GRM).
    - b) Maintain a track record of the number of affected people with complaints, the nature of these complaints, the status of the resolution of the complaints, as well as provide an assessment of the efficiency of the GRM.

**c. Task 3: Construction Supervision**

- (i) This task includes all necessary activities for delivery of goods, construction works, and implementation of CCBS. The details are as follow:
- (ii) Review and approve contractors' detailed field designs;
- (iii) Review and approve the equipment drawings, calculations, delivery program, and documents submitted by contractors; oversee the Clearance to Proceed notices issued by ESE/PMU following compensation of affected households/entities along the transmission line route and substation areas;
- (iv) Witness and participate (if necessary) in factory inspections and performance tests within the framework of the contracts;
- (v) Identify any problem during project implementation, propose remedial actions, and promptly report any outstanding issues to ESE/PMU;
- (vi) Conduct regular field visits and whenever necessary during construction, installation, testing, and commissioning works;

- (vii) In line with the work programs of the contractors, prepare and advise ESE/PMU on the outage planning of existing facilities during implementation. The outage planning will be modified/ updated regularly and will have to take into account any unplanned outages resulting from any faults arising in the network;
- (viii) Coordinate safety measures between live components in operation and components under rehabilitation; give advice and when required, conduct training to ESE/PMU on safety planning and safety measures;
- (ix) Review and approve the commissioning test reports submitted by the contractors; attend the commissioning; establish the list of deficiencies after commissioning; and prepare a timeframe for the contractors to remedy the deficiencies, and establish a monitoring program for this purpose;
- (x) Review and approve the as-built drawings and operations and maintenance manuals;
- (xi) Advise ESE/PMU on any contractual or technical disputes that may arise between contractors and ESE/PMU during the implementation phase;
- (xii) Advise ESE/PMU and seek approval from ADB for any proposed contract amendments or variation orders to be issued to the contractors;
- (xiii) Review and approve the contractors' invoices and assist ESE/PMU in the preparation of the withdrawal applications; and
- (xiv) Prepare and issue the provisional acceptance certificate for the works as well as for spare parts; prepare the final taking over certificate along with the final payments to contractors to be issued by ESE/PMU after the end of the warranty period and the completion of remedies for all deficiencies.

**d. Task 4: Environment**

- (i) Preparation of EMPs (*will be undertaken by international and 2 national environment specialists*), to be submitted to ECD and included in the tender documents:
  - a) environmental screening of subprojects;
  - b) preparation of EMPs based on the Environmental Management Plan Framework;
  - c) ensure all public consultation and disclosure requirements are met; and
  - d) assist the PMU submit and obtain approvals for EMPs by ECD & ADB.
- (ii) Supervision and Monitoring (*will be undertaken by 1 international and 1 national environment specialists*)
  - a) assist the ESE PMU to ensure that the EMPs are included in the bidding documents and civil works contracts;
  - b) prior to construction, organize a training program for the ESE PMU and PIUs on how the environmental aspects of the project will be monitored, giving emphasis on CEMP evaluation; compliance monitoring of construction activities and preparation of corresponding reports; supervision responsibilities and interaction with Contractors; and documentation, resolution and reporting of non-compliance issues and complaints; and provide on job trainings throughout the project implementation period;



- c) provide training on utilizing Noise and EMF monitoring equipment; and producing periodic monitoring reports;
- d) provide guidance to the PMU and PIUs environment safeguard officers on the environmental aspects of the project with emphasis on compliance monitoring and reporting;
- e) assist the PMU establish and operate the grievance redress mechanism;
- f) evaluate the environmental aspects of the Contractors' construction methodology and recommend to the PIC corrective actions needed, if any, to make the methodology environmentally acceptable;
- g) review the CEMPs and recommend modifications to the PIC to ensure compliance with: (a) the environmental requirements of the construction contracts as reflected in the EMP, (b) the conditions of environmental approvals of the MONREC and the Environmental Compliance Certificate, and (c) ADB SPS (2009);
- h) develop the compliance monitoring system to be used during the construction period for monitoring the Contractors' performance relative to the environmental requirements, including the preparation of: (a) monitoring and corrective action forms/checklists, (b) inspection procedures, and (c) documentation procedures;
- i) conduct orientation sessions with the Contractors on the compliance monitoring system to be used, notification of non-compliance, and the process of requiring Contractors to implement corrective measures when necessary;
- j) provide guidance to the Contractors on how their respective CEMPs will be implemented including: (a) the requirements for each mitigation measure, and (b) implementation schedule of each mitigation measure taking into consideration the general requirement that the PIC will not approve the start of any specific construction activity if the associated mitigation measures for such activity are not ready before work commences;
- k) supervise the implementation of CEMPs;
- l) sub-contract Environment Quality Monitoring Contractors and supervise all ambient environmental monitoring (water quality, air quality, and noise levels) conducted by these Environmental Quality Monitoring Contractors;
- m) evaluate the Contractors' submitted works activities and schedules relative to the requirements of the approved CEMPs;
- n) undertake monthly inspection, monitoring and reporting of construction sites and all construction-related facilities (workers' camps, borrow pits, disposal sites for spoil and unsuitable materials, equipment maintenance areas, fuel and materials storage sites, project-specific quarries and crushers, etc.) to assess the Contractors' compliance with the CEMP;
- o) through the PMU, require the Contractors to update their respective CEMPs when necessary;
- p) monitor the Contractors' compliance with health and safety requirements of the project as stipulated in the contract documents;
- q) prepare monthly monitoring reports for submission to the PMU and draft semi-annual environmental safeguard monitoring reports, as required by ECD and ADB, for submission to PMU and ESE; and

- r) upon completion of construction, prepare a report on the project's environmental compliance performance, including lessons learned that may help ESE in its environmental monitoring of future projects. The report will be an input to the overall project completion report.

**e. Task 5: Project Administration**

- (i) Set up a project performance monitoring program with measurable indicators, keep a record of project performance, keep a record of all correspondence between ESE/PMU, contractors, PIC and ADB;
- (ii) Prepare the overall disbursement plan under the Project, monitor costs, and maintain project accounts;
- (iii) Monitor the execution of the Project in line with the Project time schedules and work programs provided by contractors;
- (iv) Update the project disbursement schedule and physical target accomplishment; keep records of any disbursement under the Project; prepare and update on a regular basis the projected disbursement schedule;
- (v) Update the PAM regularly taking into account the changes in the project organization, disbursement progress project time schedule, and other significant issues;
- (vi) Prepare regular project progress reports in accordance with ADB requirements for submission to ESE/PMU and ADB;
- (vii) Prepare the Project Completion Report in accordance with ADB requirements; and
- (viii) Provide on-the-job training to ESE/PMU staff and PMU/PIU in the fields of financial management, procurement, contract management, as well as technical, environmental, and social issues.

**f. Task 6: Reporting**

62. The PIC will prepare the following reports (in addition to the required deliverables under each of the Tasks mentioned above):

- (i) Inception Report – demonstrating consultant mobilization, methodology to implement each task, communication etc., and stock taking of the pre-construction activities, to be submitted within two months from start of the services;
- (ii) Monthly Activity Report (to be submitted within 10 days after each calendar month from start of services) – a brief 3-page report on activities carried out and issues that occur in the month; to include a bar chart (with monthly percentage accomplishment) listing important activities and deliverables or reports to be completed per TOR;
- (iii) Quarterly Project Monitoring Reports (to be submitted within 15 days after the end of each quarter which could be a consolidation of the previous 3 monthly activity reports) - to include but not limited to: Introduction and basic data; procurement activities undertaken, Utilization of the ADB loan and counterpart funds; Status of project scope/implementation arrangements, assessment of changes in key assumptions and risks, etc; Implementation progress; Compliance with the loan assurances; Major project issues and problems;

- (iv) Updated resettlement plan, DDRs, IEEs and EMPs and their implementation, report on the implementation and completion of the resettlement plan , DDRs, IEEs and EMPs;
- (v) Semi-annual environmental monitoring reports;
- (vi) Project mid-term review report (to be prepared after the ADB mid-term review); and
- (vii) Project Completion Report.

**g. Task 7: Financial Management.**

- (i) Assist MOEE and ESE/PMU establish and maintain the appropriate budgets for the Project ensuring that Project activities, contracts and disbursements are included in the Government of Myanmar's Budget for MOEE leading to financial commitments by the Government for Myanmar's Annual Budget allocations;
- (ii) Assist MOEE and ESE/PMU establish and maintain project accounts (accounting and financial management systems and records) in compliance with the procedures and guidelines of the Government and the ADB;
- (iii) Assist MOEE/ESE/PMU maintain proper internal controls over the financial operations of the Project, particularly for bank accounts and cash advances;
- (iv) Assist MOEE in the approval of expenditures; assist ESE with preparation of withdrawal, check contractor invoices;
- (v) Prepare a section on finance for regular project reporting (quarterly project reports);
- (vi) Assist MOEE/ESE/PMU in the recording, management and administration of all financial transactions under the Project;
- (vii) Assist ESE/PMU in the preparation of the project financial statements, entity financial statements (statutory reports) and any financial reports as required by ADB in a timely manner;
- (viii) Assist MOEE and ESE/PMU facilitate the audit of the project financial statements, and entity financial statements (statutory reports) by OAG or other external auditors acceptable to ADB, in a timely manner for submission to ADB;
- (ix) Ensure that the audited reports to be/is submitted to ADB are translated in English and the English translation is properly signed off by the external auditors; and
- (x) Provide on-the-job training and develop staff capability of counterpart MOEE and ESE/PMU staff on all aspects of financial management and project reporting processes and procedures in accordance with ADB standards and guidelines.

**h. Task 8: Public consultation and communication**

- (i) CBA: Continue/Revise identifying stakeholders' priority communication needs, assessing key information gaps and communication barriers, and the provision of an overview of how the stakeholders primarily receive and process information, strategic approaches and materials for engaging stakeholders through various communication channels to enhance information sharing and consensus building.

- (ii) SCS: Review and revise existing strategy based on CBA findings. Strategy should include components for:
  - a) Sharing Information: ensuring a regular two-way flow of culturally appropriate information about the project to affected persons and other key stakeholders.
  - b) Raising Awareness: raise awareness of the project's scope, benefits and impacts, structured to foster understanding and acceptance of the project.
  - c) Ensuring Feedback: identify best means of ensuring that project affected people and other stakeholders can provide feedback that will be considered by project staff during project design and implementation.
  - d) Consultations and Dialogue Support: ensure necessary communications support is provided in support of consultations, as needed. Ensure stakeholder concerns are identified, recorded and that key stakeholders understand how their inputs are being shared and responded to.
  - e) Local Involvement: ensure local officials and relevant village leaders are consulted and involved to foster understanding and acceptance of the project.
  - f) Coordinated Communications: develop a communication coordinating mechanism ensuring the effective information sharing, feedback and stakeholder involvement.
- (iii) Support Implementation of SCS: Work with designated MOEE(ESE) communications focal points in five project implementation regions, a senior Communication Focal person in Nay Pyi Taw and other project staff in implementing relevant early-stage components of the SCS.
- (iv) Oversee IEC Production: Based on feedback from the CBA and SCS, and community feedback and identified information needs, develop a range of information materials, including a user-friendly version of the project information booklet, Q&As, brochures, maps, and other relevant materials.
- (v) Communication Support for Consultants and Community Engagement: Provide support to project team in their communications and interactions with affected people and other project stakeholders.
- (vi) Assess MOEE/ESE Communications capacity to implement SCS: Pursuant to the SCS, assess government counterparts' capacity to implement communication components of the project. Identify priority areas for capacity building, then outline and implement a training and capacity building program for relevant MOEE/ESE staff. This should be done in close coordination with project staff and consultants involved with safeguard component of the project.

i. **Other tasks.**

63. The PIC must perform satisfactorily all the above defined tasks. Apart from the above defined tasks, the PIC is required to perform any other project-related tasks as may be requested by executing agency, implementing agencies and ESE/PMU from time to time for the successful implementation and completion of the Project.

64. **Qualification requirement and team composition.** Detailed qualification requirements and team composition are given below.

- (i) International consultants should have a university degree in related fields, preferably at post-graduate degree.
- (ii) The team leader and the deputy team leader should have at least ten years of relevant experience in the power sector including medium/high voltage transmission lines and substation systems. Other international consultants should have at least seven years of relevant professional experience in the power sector including medium/high voltage transmission lines and substation systems.
- (iii) The national consultants shall have a bachelor's and preferably a post-graduate degree and at least 5 years of relevant professional experience in the power sector including medium/high voltage transmission lines and substation systems. The experts should have a good knowledge of power transmission and the substation sector in Myanmar;
- (iv) The team leader and the deputy team leader should have demonstrated working experience in design and/or construction of medium/high voltage transmission lines and substations;
- (v) The team leader and the deputy team leader should have working experience at least as a team member of PIC in at least one ADB-financed project, evidenced by the past records;
- (vi) The international environment specialist and the international social development specialist (resettlement) should have working experience as a member of an ADB financed project implementation consultant and/or project preparatory technical assistance;
- (vii) The international IT metering and billing system expert should have project experience and deep knowledge and skills of computerized billing systems, advanced metering infrastructure (AMI) system and/or automatic metering reading systems, meter to cash process, and billing data process;
- (viii) The team leader should be versed with the monitoring and reporting requirements in ADB-financed projects, demonstrated by past records; and
- (ix) The team leader should have demonstrated leadership ability in working in the less developing countries in Southeast Asia and able to adapt to working environment. Working experience in Myanmar will be an advantage.

## **VII. SAFEGUARDS**

65. Project safeguards documents have been prepared in accordance with the laws and regulations of the Republic of the Union of Myanmar, and the ADB SPS (2009). In compliance with ADB SPS (2009), the project categorization is B for environment, B for involuntary resettlement and C for indigenous peoples.

### **A. Environment**

#### **1. Transmission Component**

66. The project was initially categorized as A for environment due to the long Mawlamyine- Ye-Dawei transmission line potentially encroaching through a biodiversity area. However, the final alignment chosen as result of due diligence completely avoided all environment sensitive areas, hence, the environment assessment confirmed that the project is not considered as highly complex and sensitive and is now re-categorized as B.

67. Subject to the original categorization in the concept paper, and in compliance with ADB SPS (2009), an Environmental Impact Assessment (EIA) report with EMP was prepared. The

EIA and EMP of the transmission component were prepared based on the feasibility design, the results of site visits, discussions with local authorities and beneficiaries and the use of secondary sources of information such as similar projects.

68. The assessment determined that expected impacts will occur during the different phases of the project development. The impacts have been characterized as construction site waste generation; soil erosion and sediment control from materials sourcing areas, access roads, and site preparation activities; fugitive dust and other emissions; noise from heavy equipment and truck traffic; potential for hazardous materials and oil spills associated with heavy equipment operation and fueling activities; potential presence of PCBs and other pollutants in old transformers; terrestrial and avian habitat alteration; bird and bat collisions or electrocutions; aquatic habitat alteration at river crossings, health and safety issues, including electric and magnetic fields (EMF). Most of these potential impacts are temporary site-specific and can be mitigated to acceptable levels by means of proper implementation of recommended measures.

69. **Environmental Management Plan (EMP).** A detailed EMP (included in Chapter 9 of the EIA Report) has been prepared for the transmission lines, in conformance with the Myanmar procedure (2015) and ADB Safeguard Policy Statement (2009), The EMP includes: (i) specific mitigation measures formulated to avoid or minimize the adverse impacts of the pre-construction, construction, operation, and eventual decommissioning phases of transmission line development; (ii) a plan was prepared to monitor the implementation of the mitigation measures and their effectiveness in preventing adverse impacts; (iii) an institutional mechanism for EMP implementation, monitoring, and reporting; and (iv) a budget.

70. Detailed mitigation measures have been prepared for: (i) each of the transmission lines; (ii) new substations (iii) existing substations; and (iv) access roads. The mitigation measures were developed to address potential impacts at pre-construction, construction, and operations phase. The measures are described in the EMP (Chapter 9 of the EIA Report).

71. **Contractor's Environmental Management Plans.** Before construction starts, each Contractor will prepare a CEMP consistent with the EMP. The CEMP is to include all mitigation measures and monitoring requirements to be carried by the Contractor. The CEMP will be submitted to the Project Implementation Consultant, PMU and ADB for review and approval. Contract documents shall explicitly indicate the requirements for the CEMPs. Construction cannot start until CEMPs are approved. To ensure that the Contractor allocates sufficient funds to prepare and implement the CEMPs, tender and bid documents will require that the cost of implementing the CEMPs is included in the Contractor Bid price.

72. **Institutional Arrangements and Responsibilities.** MOEE and DPTSC do not have environmental and social management systems to guide project preparation, project construction, operation, and maintenance of transmission lines. Overall responsibility for implementation of the EMP falls to the PMU for this project.

73. **PMU and Project Implementation Units.** DPTSC will assign staff to be responsible as Environmental Safeguard Officer and a Social Safeguards Officer to the PMU. The PMU will appoint staff to be responsible as Environmental Safeguards Officers to the (PIUs) for each transmission line.

74. **Project Implementation Consultants.** The PICs will support the PMU and PIUs on environmental management of the Project. PIC includes an international environmental specialist, and two (2) national environmental specialists (see also Section VI-D, Term of Reference for PIC).

75. **Environmental Quality Monitoring Contractors.** Environmental Monitoring Contractors will be sub-contracted through PIC and will be responsible for conducting baseline data collection and periodic monitoring programs of air quality, water quality, noise, and biological environment on behalf of the DPTSC PMU.

**Table 29. Indicative Staff Requirements for Environmental Management of Transmission Line Component.**

Staff	Position	Level of Effort
Department of Power Transmission and System Control (DPTSC) Project Management Unit (PMU)	Environmental Safeguard Officer Social Safeguards Officers	Full time during the Project
Transmission Line Project Implementation Units (PIUs)	Environmental Safeguards Officers for each Transmission Line	Part time during construction
Project Implementation Consultant (PIC)	International Environmental Specialist	10 person months
	National Environmental Specialist for each Transmission Line	2 persons x 10 person months Total 20 person months
Contractors	Environmental Safeguards Officers	Full time during construction
Outside Consultants to PMU or through the Construction Supervision Consultant	Capacity Development Environmental Management Training	Contract
	Independent Third Party Environmental Monitoring Contractors	Contract

76. The detailed administrative and environmental management responsibilities for each of these institutions involved in the transmission component are provided in the EIA Report.

77. **ADB.** The ADB is responsible for: (i) assisting the DPTSC PMU with review of updated EMPs; (ii) conducting periodic site visits of subprojects; (iii) conducting supervision missions for detailed review of subprojects; (iv) reviewing the periodic environmental safeguard monitoring reports submitted; and (v) disclosure on ADB website of semi-annual environmental monitoring reports.

78. **Grievance Redress Mechanism.** The DPTSC PMU will establish and operate the Grievance Redress Mechanism as provided in Chapter 8 of the EIA Report for the Transmission component.

79. **Capacity Development.** Environment specialists in PIC will provide training programs to ensure staff in PMU, PIUs, and contractors (i) fully understand the EMP; (ii) understand their responsibilities; and (iii) are capable of undertaking their responsibilities. As necessary, ADB safeguard team will provide additional training and capacity development programs for DPTSC.

80. **Budget for Implementation of the Transmission EMP.** The estimated cost for the environmental safeguard activities for the transmission line is \$4,528,863. This cost is included in government counterpart budget, PIC budget, and contractor budget.

## 2. Distribution Component

81. In compliance with ADB SPS (2009), an IEE with an EMP of the distribution component was prepared based on feasibility design, the results of site surveys at subproject sites, public consultations, environmental compliance audit of existing substations and due diligence of ESE warehouses. The field visits and the results of the due diligence confirmed that the project is category B for environment. The distribution lines will generally be installed along the roads or in paddy fields. The subprojects will not traverse environmentally sensitive or cultural heritage sites, however, there are temples, health centers, and schools along the alignment of the distribution line and near substation sites. The identified environmental impacts include the removal of roadside trees, temporary disturbance from construction activities such as dust, noise and blockage of narrow roads, risks to workers during construction and equipment installation, sourcing of borrow materials, and soil runoff from landfilling of substation sites. There are also potential hazards from landmines in subprojects located in Kayin State. Further surveys will be undertaken during detailed design to take into consideration the final alignment of the distribution lines.

82. **Environmental Management Plan.** In compliance with ADB SPS (2009), an EMP (see Chapter 10 of the IEE Report for the Distribution Component) has been prepared. The EMP includes: (i) specific mitigation measures were formulated to avoid or minimize the adverse impacts of the pre-construction, construction, operation, and eventual decommissioning phases of transmission line development; (ii) a plan to monitor the implementation of the mitigation measures and their effectiveness in preventing adverse impacts; (iii) an institutional mechanism for EMP implementation, monitoring, and reporting; and (iv) a budget.

83. **Environmental Management Plan Framework.** For the distribution component, in accordance with the Myanmar EIA Procedure (2015), the ECD requires that a site specific EMP be prepared for each distribution line and for each substation. ADB and ESE explained to ECD that due to large number of substations and lines, it is not practical to do so. Instead, it is more practical and implementable to prepare an EMP for each subproject, comprising substations and line belonging to one construction contract. The contractor is obliged to implement the EMP under his/her contract. To operationalize this, a standardized EMP Framework was included in the IEE. This framework will be used as a guide for PIC to prepare subproject specific EMPs during project implementation.

84. **Contractor Environmental Management Plans.** Before the construction starts, each Contractor will prepare a CEMP. The CEMP is to include all mitigation measures and monitoring requirements to be carried by the Contractor. The CEMP will be submitted to the Project Implementation Consultant (PIC) and PMU for review and approval. Contract documents shall explicitly indicate the requirement for the CEMPs. Construction cannot start until all CEMPs are prepared. To ensure that the Contractors allocate sufficient funds to prepare and implement the CEMPs, the tender and bid documents will require that the cost of implementing the EMP and CEMP is included in the Contractor Bid price.

85. **Institutional Arrangements and Responsibilities.** Currently, there is no environment and social management unit or staff at ESE to oversee safeguards requirements of the Project. However, ESE plans to designate Environment and Social Safeguards Staff who will support IFI (e.g., ADB, World Bank, JICA, KfW) funded projects.

86. **PMU and Project Implementation Units.** ESE will assign staff to be responsible as Environment and Social Manager, an Environment Officer, and a Social Officer in the PMU.



Environment Officers and Social Officers will be designated for each state or regional PIU.

87. **Project Implementation Consultant.** The PICs will support the PMU and PIUs on environmental management of the Project. PIC includes one international Environmental Specialist and three (3) national Environmental Specialists (see Section VI-D Terms of Reference).

88. **Environmental Quality Monitoring Contractors.** The environmental monitoring contractors will be sub-contracted through PIC and will be responsible for conducting sampling and analysis of ambient air quality and water quality on behalf of ESE (PMU). Sampling will be arranged for subproject sites including construction camps which are located near community areas for ambient air quality and near water bodies for water quality.

89. Noise and EMF monitoring will be undertaken by the PIUs and PMU during the inspection of project facilities and will not be contracted to environmental monitoring contractors. Noise meters and EMF meters will be procured for the PIUs and PMU under the project to enable the PIUs and PMU to continuously monitor noise and EMF beyond project construction. The PIC will organize training to the PIUs and PMU on noise and EMF monitoring.

**Table 30. Indicative Staffing for Environment and Social Safeguards**

Agency	Position	Type of Assignment
<b>ESE (PMU)</b>	Environment and Social Manager	Full time
	Environment Officer	Full time
	Social Officer	Full time
<b>ESE Regions/States (PIUs)</b>	E&S staff at each PIU	Part time (concurrent to existing assignment)
<b>Project Implementation Consultant</b>	International Environment Specialist	12 persons months
	Three National Environment Specialist	36 months each person for 12 months
<b>Environmental monitoring contractor</b>	Environmental monitoring	Contract

ESE = Electricity Supply Enterprise; PIU = Project Implementation Unit; PMU = Project Management Unit.

90. The detailed administrative and environmental management responsibilities for each of these institutions involved in the distribution component are provided in Section 10.1 of Distribution IEE.

91. **ADB.** The ADB is responsible for: (i) assisting the ESE (PMU) with review of updated EMPs; (ii) conducting periodic site visits of subprojects; (iii) conducting supervision missions for detailed review of subprojects; (iv) reviewing the periodic environmental safeguard monitoring reports submitted; and (v) disclosure on ADB website of semi-annual environmental monitoring reports.

92. **Grievance Redress Mechanism.** The ESE PMU will establish and operate the Grievance Redress Mechanism as provided in Chapter 9 of the IEE Report for the Distribution component.

93. **Capacity Development.** To strengthen the capacity of the implementing agencies in the implementation of the EMP, a capacity development program for MOEE, ESE (PMU) in Nay Pyi Taw and regional/state ESE (PIUs) in Ayeyarwady, Bago, Mon, Kayin, and Rakhine will be delivered. The implementation and monitoring of the EMP and the Environmental Monitoring Plan. The program will focus on community safety, EMP preparation and implementation, inspection and corrective action, and the proper management of waste materials. The PIC will conduct necessary training and capacity development programs. As necessary, ADB safeguard staff will provide additional training.

94. **Environmental Management and Monitoring Costs.** The estimated cost for the environmental safeguard activities is \$1,809,400.

## **B. Involuntary Resettlement**

95. The project is classified as Category B in accordance with ADB's SPS (2009). Land acquisition for the project will result in physical and economic displacement. A total of 39 hectares of land (38 hectares for distribution component and 1 hectare for transmission component) will be acquired permanently to be used for tower footings and substations. The project will have an impact on a total of 814 households. Of these, 18 households will be severely affected: nine households will lose their primary residential structures under the transmission component, and the other nine households will lose more than 10% of the total land holdings or income under the distribution component. Temporary impacts include: some seasonal crops and rubber trees will be removed during construction; temporary disturbances, interruption of business and access to property.

96. To mitigate and manage the impacts, two Resettlement and Ethnic Groups Development Plans (REGDPs) have been prepared, one each for the transmission and distribution components. These REGDPs are at the appraisal stage and will be updated at the detailed design stage and will be approved by ADB. The REGDPs include a review of government laws and regulations, analysis of the gaps between ADB SPS (2009) and the government policies, and gap-filling measures. The resettlement policy proposed in REGDPs is consistent with the provisions of the ADB's SPS (2009) and takes into consideration relevant provisions of government laws and regulations.

97. For the transmission lines under the transmission component (total of 300 km), a total of 794 households will be affected due to land acquisition for the tower footings and disturbances during construction. Private land rights will be acquired for the tower footings (0.97 ha in Mawlamyine-Ye-Dawei and 0.075 ha in Ahlone-Thida). Nine houses will lose their residences and 0.48-hectare of rubber plantation will be affected due to the construction of substations for the Mawlamyine-Ye-Dawie transmission line. Among the 794 affected households, 115 are vulnerable (not due to this proposed project). The project will provide compensation and also assistance to join with other ongoing development activities in the project areas to improve their earning opportunities. They will get farming assistance to shift to short-term seasonal crops using the same land along the transmission line corridor, from which the households are expected to achieve or surpass pre-project level income. The compensation and assistance provided under the entitlement matrix are deemed sufficient to restore the income and standard of living of the households to at least national minimum standards and no further income restoration program is needed. The total estimated budget for the REGDP implementation of the transmission line component is \$3,272,860 (\$62,803 for the Ahlone-Thida TL [Strand Road]; \$3,078,630 for Mawlamyine-Ye-Dawie transmission line; and \$131,427 for the Ahlone-Thida [Dala]).

98. For the distribution component (33kV and 66kV) an estimated 1,189.6 ha of crop land will be temporarily affected due to construction of distribution lines (a total length of 820 km). The impact is expected to be minimal due to the wide use of road easement, the short construction period and timing this period with the dry season when most farms are left to fallow. The permanent impact will mostly be due to the height restriction of 5.8 meters for 66kV distribution lines and 5.5 meters for 33kV distribution lines which will restrict the use of private land in the corridor and the footings of the 13,762 poles. The total land requirement for poles will only be 0.04 ha (each pole requires only 0.03 m<sup>2</sup>).

99. For the construction of the 42 new substations, a total of 38.1 ha of land is required. The government has identified 27.4 ha of state-owned land and 10.7 ha will be acquired from 17 affected households. The total affected households for the distribution lines and substations is 20, of which 17 households are private land owners, one (1) as a share cropper and two (2) households currently residing on state-owned land. Nine of the 17 households will lose more than 10% or more of their landholding and four will lose 10% or more of their income. There are two identified vulnerable households, one female headed household whom suffered a substantial loss in income in 2016 due to a bad crop, and another household who will be resettled. The project has include measures to assist these householdes. The The budget estimated for REGDP implementation for the distribution component is is 401,383 USD.

100. The cost for the implementation of the two REGDPs is estimated at \$3,674,243, which includes land acquisition, compensation, farming support and contingencies. Project information has been disclosed to the affected persons during the consultations and surveys that were undertaken during project preparation. A project information booklet will be prepared by DPTSC and ESE PMUs and distributed to all the affected persons. All land acquisition and resettlement costs will be financed from government counterpart funds.

101. The compensation rates and amount of assistance will be reviewed and adjusted based on the result of the census and details measurement surveys (DMS) and the replacement cost survey (RCS) at the time of REGDPs implementation. The MOEE will finances all resettlement costs based on the agreed financing plan. The regional General Administration Department (GAD) will prepare a cost estimate for compensation and submit to MOEE who will deposit the corresponding amount to GAD's account.

102. Effective monitoring and public consultation with all stakeholders and affected people at all stages of project implementation will be ensured. In compliance with ADB's information disclosure and consultation requirements, the safeguard documents will be posted on ADB's website. Stakeholder consultations will continue through formal and informal focus group discussions. A grievance redress mechanism will help to facilitate resolution of complaints regarding project performance. The REGDPs will be updated and disclosed in English and local languages after detailed engineering design and cleared by ADB prior to contract awards.

### **C. Indigenous Peoples**

103. The project is classified as Category C for Indigenous Peoples. Three of the five states, namely Mon, Kayin and Rakhine have ethnic groups residing in the project areas. The project will not acquire lands that are traditionally used by the ethnic groups nor cause any adverse impact on their identity, social, culture, or spiritual importance or interfere with their socio-cultural beliefs and livelihood systems. Ethnic group communities will benefit from project activities through employment opportunities and household electrification. However, the project also presents minor

risks and challenges concerning ethnic groups, particularly in terms of ensuring that ethnic groups are not marginalized during the project implementation with regards to employment opportunities and access to electricity. The project will ensure adequate consultations and a comprehensive project management approach in project areas where there are already ethnic group organizations providing parallel social services and community infrastructure. REGDPs have been developed with the approaches and entries that ensure project design and implementation shall foster full respect of ethnic groups and full respect for all affected households and stakeholders and that ethnic groups (i) do not suffer adverse impacts as a result of the project, (ii) have equitable access to benefits of the project, and (iii) can participate actively in the project.

104. **Prohibited investment activities.** Pursuant to ADB’s Safeguard Policy Statement (2009), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the Safeguard Policy Statement (2009).

### VIII. GENDER AND SOCIAL DIMENSIONS

105. Overall, the project does not have a gender component or highly significant gender impacts. However, under the distribution component, there are several work contracts for which women can be employed. The priority will be given to women employment with their consent for income earning to help improve the living conditions. This will be documented in the project implementation reports.

106. At future construction sites the influx of male workers could lead to some prostitution and related sexually transmitted infections as awareness levels are low. To mitigate these impacts, construction contracts will include prevention and health and safety measures as well as core labor standards. A Code of Conduct for workers is included in the EMP. In addition, the PIC will conduct trainings and information campaigns for PIU, local communities and workers on gender issues, including HIV/AIDS and human trafficking prevention. The loan agreement specifies that contractors will abide the core labor standards. The PIC will conduct training on core labor standard to contractors and PIUs staff. Training will be organized jointly for HIV/AIDS, core labor standards and gender issues. Attention will be made to ensure that ethnic communities who may participate in the construction contracts understand fully their rights based on national, international standards and ADB policy. 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

<b>Impact the Project is Aligned with</b> Universal electricity access achieved (National Electrification Plan, 2014) <sup>a</sup>			
<b>Results Chain</b>	<b>Performance Indicators with Targets and Baselines</b>	<b>Data Sources and Reporting Mechanisms</b>	<b>Risks</b>
<b>Outcome</b> Capacity and operational efficiency of power transmission and distribution in central and southern Myanmar increased	By 2026 a. Capacity of the 230 kV transmission network increased by 800 MVA (2016 baseline: 5,460 MVA)  b. Capacity of distribution systems (66 kV and 33 kV) in rural areas increased by 400 MVA (2016 baseline: 4,670 MVA)	a–d. MOEE, DPTSC, and ESE annual reports; and project benefit monitoring and post-evaluation reports	Uncertainty in timely mobilization of large capital investments needed for the expansion of the generating capacity and rural electrification

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
	<p>c. Household access to electricity increased by 330,000 households (2016 baseline: 3.8 million households or 35% national average)</p> <p>d. Technical and nontechnical distribution losses reduced by 2 percentage points (2016 baseline: 13%) By 2025 (2016 baseline: not applicable)</p>		
<p><b>Outputs</b></p> <p>1. Myanmar's 230 kV power transmission network expanded</p> <p>2. New distribution facilities added to the distribution systems in Ayeyarwady and Bago regions and in Kayin, Mon, and Rakhine states</p> <p>3. New CAMS and CCBS installed</p>	<p>1a. 230/66/11 kV (2x50 MVA) substation in Ye, 230/66/11 kV (2x50 MVA) substation in Dawei, and 286 km Mawlamyine–Ye–Dawei transmission line constructed and operational</p> <p>1b. 230/66/11 kV 150 MVA substation in Ahlone, 230/66/11 kV (3x150 MVA) gas-insulated substation in Thida, and 16.6 km Ahlone–Thida transmission line constructed and operational</p> <p>2a. 48 66/33/11 kV substations constructed and operational</p> <p>2b. 843 km of distribution lines constructed and operational</p> <p>3a. CAMS and CCBS installed and operational</p> <p>3b. CAMS and CCBS operation and maintenance expertise transferred to the DPTSC and the ESE, such that at least 5 DPTSC staff can operate CAMS independently and at least 5 ESE staff can operate CCBS independently</p>	<p>1a–3b. DPTSC and ESE annual reports; and PIC quarterly reports</p>	<p>Implementation delays in the recruitment of consultants and works and good contracts because of the government's multilayer approval requirements</p>

### Key Activities with Milestones

#### 1. Myanmar's 230 kV transmission network expanded

##### 1.1 Mawlamyine–Ye–Dawei transmission line constructed and operational

1.1.1 Tender contract (Q2 2018–Q1 2019) (advance contracting)

1.1.2 Award contract (Q2 2019)

1.1.3 Update and finalize resettlement and land acquisition and environmental plans (Q2–Q3 2019)

1.1.4 Implement resettlement plan and land acquisition by section (Q3 2019–Q4 2020)

1.1.5 Implement contracts (Q3 2019–Q2 2021)

1.1.6 Test and commission substation (Q3–Q4 2021)

##### 1.2 Ahlone–Thida transmission line constructed and operational

1.2.1 Tender contract (Q3 2019–Q1 2020)

1.2.2 Award contract (Q2 2020)

1.2.3 Update and finalize resettlement and land acquisition and environmental plans (Q2–Q3 2020)

1.2.4 Implement resettlement plan and land acquisition by section (Q3 2020–Q2 2022)

1.2.5 Implement contracts (Q3 2020–Q4 2022)

1.2.6 Test and commission substation (Q1–Q2 2023)

#### 2. New distribution facilities added to the distribution systems in Ayeyarwady and Bago regions and in Kayin, Mon, and Rakhine states

<p>2.1 Update bidding documents based on preliminary survey; update and implement safeguard plans, including resettlement and land acquisition and environmental plans (Q2 2019–Q1 2020)</p> <p>2.2 Tender goods contract (Q4 2019–Q4 2020)</p> <p>2.3 Deliver goods (Q3 2020–Q4 2021)</p> <p>2.4 Tender work contract(s) (Q3 2020–Q4 2021)</p> <p>2.5 Implement work contract(s) (Q1 2022–Q4 2024)</p> <p>2.6 Test and commission distribution facilities (Q1 2024–Q2 2025)</p> <p><b>3. New CAMS and CCBS installed</b></p> <p>3.1 Prepare bidding documents for CAMS and CCBS (Q3–Q4 2020)</p> <p>3.2 Tender contracts (Q1 2021–Q4 2021)</p> <p>3.3 Award contract(s) (Q4 2021)</p> <p>3.4 Knowledge transfer to DPTSC and ESE staff (Q4 2021–Q2 2025)</p> <p>3.5 Commissioning and capacity building for operation of CAMS and CCBS (Q4 2021–Q2 2025)</p>
<p><b>Project Management Activities</b></p> <p>Full establishment of implementing agencies, including steering committee, PMUs, PIUs, and working mechanism between implementing agencies and executing agency (Q1 2018)</p> <p>Loan approval (Q4 2018)</p> <p>PIC recruitment (Q2 2018) (advance contracting)</p>
<p><b>Inputs</b></p> <p>ADB: \$298,900,000 (concessional loan)</p> <p>Government: \$10,000,000</p>
<p><b>Assumptions for Partner Financing</b></p> <p>Not applicable</p>

ADB = Asian Development Bank, CAMS = computerized assets management system, CCBS = computerized customer billing system, DPTSC = Department of Power Transmission and System Control, ESE = Electricity Supply Enterprise, km = kilometer, kV = kilovolt, MOEE = Ministry of Electricity and Energy, MVA = megavolt ampere, PIC = project implementation consultant, PIU = project implementation unit, PMU = project management unit, Q = quarter.

<sup>a</sup> Government of Myanmar. 2014. National Electrification Plan. Unpublished.

Source: ADB staff estimates.

## B. Monitoring

107. **Project performance monitoring.** Within 6 months of the date of loan effectiveness, MOEE/DPTSC/ESE will establish a project performance monitoring system (PPMS) for the project, in form and substance acceptable to ADB. The PPMS will track the project implementation activities, corresponding target dates, expected outcomes, and assigned responsibilities under a monitoring mechanism that can be used to track progress on specific activities. The PPMS will aim to detect any deficiency and discrepancy between the plan and the execution of the project in using the resources efficiently in order to ensure that timely corrections can be made to adjust the design of the project as feasible. ADB inception mission will provide a checklist of the above data to MOEE and DPTSC, which will be updated and reported quarterly through the DPTSC's quarterly progress reports and after each ADB review mission. These quarterly reports will provide information to regularly update ADB's project performance reporting (PPR) system.<sup>12</sup>

108. **Compliance monitoring.** Compliance for all loan covenants (environmental, social safeguards, financial, economic, and others) will be jointly monitored by MOEE, DPTSC, ESE and ADB through quarterly updates provided by the PIUs. In this respect, the PMUs will submit

<sup>12</sup> ADB's project performance reporting system is available at:  
<http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool>

to ADB a status report on the compliance with covenants with an explanation and time-bound actions to address partly or non-complied covenants. As part of the joint efforts, ADB's Resident Mission in Myanmar will hold quarterly review meetings with MOEE, DPTSC and ESE to ensure the full compliance of all the loan covenants. In addition, MOEE, DPTSC, ESE and ADB shall undertake a comprehensive midterm review after 3 years of project commencement. At the conclusion of the mid-term review, ADB and the Government may agree on changes in both project scope and implementation arrangements, as deemed necessary.

## 1. Safeguards Monitoring

109. **Environment monitoring.** Monitoring of the EMP will have weekly reporting by the Contractor; and monthly reporting by the PIC. The PIC will be responsible for the following monitoring activities related to environmental safeguards: (i) establishing a system to monitor the environmental aspects of the project including the indicators set out in the monitoring plan of the EMP; (ii) supervising and monitoring the implementation of environmental mitigating measures required for the construction activities; (iii) reviewing, monitoring, and evaluating the effectiveness of the implemented CEMPs, and recommending corrective actions, if required; (iv) preparing monthly environmental monitoring reports for PMU; and (v) preparing semi-annual environmental monitoring reports for ADB and ECD. The PMUs will finalize the semiannual environmental monitoring reports and DPTSC/ESE will submit the reports to ECD and ADB. ADB will carry out regular loan review missions (semi-annually) to undertake monitoring.

**Table 31. Reporting Requirements**

Responsibility	Reporting Requirement	Reporting to
Contractor	Weekly inspection and monitoring reports	PICs
Project Implementation Consultants (PICs)	Monthly inspection and monitoring reports	PMUs
	Draft semi-annual environmental monitoring reports	PMUs
PMUs	Final semi-annual environmental monitoring reports	DPTSC /ESE
DPTSC /ESE	Submission of final semi-annual environmental monitoring reports	ECD, ADB

ADB = Asian Development Bank; DPTSC = Department of Power Transmission and System Control; ECD = Environment Conservation Department; ESE = Electricity Supply Enterprise; PIC = Project Implementation Consultant; PMU = Project Management Unit.

110. **Involuntary resettlement.** The PMUs, with support from the PICs, will be responsible for internal monitoring of the REGDPs implementation. The PMUs will supervise and manage the monitoring of resettlement activities and implementation arrangements. Quarterly resettlement monitoring reports will be prepared by the PICs, in collaboration with the assigned PMU's Social Safeguards representatives, and submitted to the DPTSC/ESE/MOEE and ADB. The reports will include progress on the status of the REGDPs implementation, information on location and number of people affected, land acquisition and compensation status, assistance provided to severely affected people and vulnerable people and any unforeseen impacts. The monitoring information should include georeferenced information of each household, linked to household level documents such as the inventory of loss (IoL), the detailed measurement surveys (DMS) and any other household level document generated. The ADB review missions will monitor and assess the resettlement activities during the project implementation period.

111. Monitoring of REGDPs, with focus on land acquisition, compensation, and distribution of

project benefits will be carried out by the PICs with support of PMUs/PIUs through the township administration. Throughout the project implementation period, the PICs and PMUs will conduct periodic monitoring by having regular meetings with (i) the affected people; (ii) severely affected households; (iii); and ethnic groups.

112. The REGDP monitoring by the PICs will assess whether (i) the standard of living of affected persons are restored or improved, (ii) the social safeguards related loan covenants are being met, (iii) the rehabilitation and compensation elements are sufficient, and (iv) where problems and risks are identified, identify adequate measures to mitigate resettlement problems.

113. The monitoring reports should include an overview of REGDPs implementation progress as well as verification of (i) progress in social safeguards loan covenants; (ii) changes in living standards and livelihoods; and (iii) need for further mitigation measures, if any.

114. The focus of REGDPs monitoring will be as follows:

- (i) adequate mapping and documentation to support the implementation of resettlement plans (eg. maps, photos of each affected land, household, structures, and other assets to be impacted by the project);
- (ii) confirmation on the number of severely affected households, the area of permanent loss of land, temporary impacts, and vulnerable households;
- (iii) adequate provision of budget by MOEE to cover resettlement and compensation costs;
- (iv) disbursement of compensation to affected households according to the compensation policy agreed in the REGDPs;
- (v) documentation of information dissemination and public participation that include (a) the number of public consultation meetings held during the preparation of the detailed compensation plan, (b) the number of affected households that participated, and (c) comments, suggestions, and concerns of the affected households and how these were addressed;
- (vi) documentation of the number of affected people with complaints, nature of the complaints, status of the resolution of the complaints, assessment of efficiency of the grievance redress mechanism (GRM); and
- (vii) participation of women in meetings and in the implementation of resettlement, concerns of women in connection with their resettlement and resolution of their grievances.

115. **Gender and social dimensions monitoring.** The project has no gender and social issues/concerns and will not require separate gender and social monitoring. Project monitoring for social, environment and communication will be conducted.

## **C. Evaluation**

116. Following loan signing, a project inception mission will be fielded to confirm the working relationship between ADB and MOEE, DPTSC, ESE and PMU staff involved in the implementation of the project. Following loan effectiveness, progress under the project will be subject to formal loan reviews every six months by ADB, 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 three years after the inception mission. Within six months of physical completion of the project, MOEE, DPTSC and ESE will submit a



project completion report to ADB.<sup>13</sup> The DPTSC, ESE will 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 project completion report. Evaluation activities are summarized in Table below.

**Table 32. Summary of Evaluation Activities**

<b>Evaluation Activity</b>	<b>Purpose</b>	<b>Methodology</b>	<b>Who are responsible and involved</b>
Review Mission	Review the progress of the project and provide guidance to facilitate implementation	Site visit and meetings with executing agency/implementing agency officials, contractors, consultants (twice a year)	ADB MOEE DPTSC ESE
Midterm Review Mission	Assess whether attainment of project immediate objective (purpose in terms of the design and monitoring framework) is still likely	Site visit and meetings with executing agency/implementing agency officials, consultants (3 years after loan inception)	ADB MOEE DPTSC ESE
Project Completion Report	Evaluate the overall output of the project and its relevance and suitability	Site visit and meetings with executing agency/implementing agency officials, consultants	ADB MOEE DPTSC ESE

ADB = Asian Development Bank; DPTSC = Department of Power Transmission and System Control; ESE = Electricity Supply Enterprise; MOEE = Ministry of Electricity and Energy.

#### **D. Reporting**

117. The MOEE, DPTSC and ESE will provide ADB with (i) quarterly progress reports in a format consistent with ADB's PPR 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 the next 12 months; and (iii) a project completion report within 6 months of physical completion of the project. To ensure that projects will continue to be both viable and sustainable, project accounts and the executing agency audited financial statement together with the associated auditor's report, should be adequately reviewed.

#### **E. Stakeholder Communication Strategy**

118. An SCS has been prepared in accordance with ADB's Public Communications Policy (PCP) 2011<sup>14</sup> and ADB SPS (2009). The objectives of the SCS include fostering affected community understanding and acceptance of the project, enhancing government officials' and community leaders' understanding of and support for the project, and better familiarizing MOEE and DPTSC/ESE staff with communication and redress mechanism requirements.

119. DPTSC and ESE will appoint one senior officer in each PMU responsible for SCS

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

<sup>14</sup> ADB. 2011. Public Communications Policy 2011, *Disclosure and Exchange of Information*. Manila.

implementation. The officer in the ESE/PMU will be assisted by five staffs responsible for SCS implementation in each regional PIU. The officer in DPTSC/PMU will be assisted by two staffs responsible for SCS implementation in the PIUs each for one subproject:

- (i) Liaising with affected people and other stakeholders, as well as execute broader communication responsibilities (i.e., media relations);
- (ii) Ensuring that relevant project information (including environment, social safeguards, resettlement plan and redress mechanism) is delivered to stakeholders in a culturally appropriate, gender-sensitive, and timely manner to raise awareness of the project's scope, highlight the benefits the project will bring to the country as a whole and specific stakeholders, provide transparent information on impacts and how the project will mitigate these risks, and to foster better understanding of the project in general;
- (iii) Ensuring that accurate and timely feedback from stakeholders is obtained;
- (iv) Enabling a regular two-way flow of information between project implementers and stakeholders, with information sharing and consultative mechanisms established;
- (v) Ensuring the full disclosure of all required documents;
- (vi) Developing the capacity of staff handling communication responsibilities outlined in the SCS; and
- (vii) Monitoring the implementation of the SCS throughout the project, ensuring corrective actions are taken where needed.

120. The full SCS is part of this PAM. The SCS will be implemented by DPTSC and ESE throughout the project period, with the support of the Communication Specialist of PIC.

## **X. ANTICORRUPTION POLICY**

121. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project.<sup>15</sup> 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 and/or 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.<sup>16</sup>

122. To support these efforts, relevant provisions are included in the loan agreement/regulations and the bidding documents for the project.

## **XI. ACCOUNTABILITY MECHANISM**

123. 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 an effort in good faith 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.<sup>17</sup>

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<sup>15</sup> Anticorruption Policy: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

<sup>16</sup> ADB's Integrity Office web site: <http://www.adb.org/integrity/unit.asp>

<sup>17</sup> Accountability Mechanism: <http://www.adb.org/Accountability-Mechanism/default.asp>.

## **XII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL**

124. This first draft of PAM has been prepared and discussed during the loan fact-finding mission on 22 January–2 February 2018. All revisions and/or updates during the course of implementation should be retained in this section to provide a chronological history of changes to implemented arrangements recorded in the PAM, including revision to contract awards and disbursement s-curves.

**MYA (50020-002) Power Network Development Project  
Subproject details by Region, Townships, Villages and Household**

Sr. No	State/Region	Name of Township	Name of Sub-Projects Ayeyarwaddy Region	Effective Indicator		
				Electrified Town	Electrified Villages	Additional households to be electrified
1	Ayeyarwaddy Region	Nga Yoke Kaung	New construction of 33/11 kV 10 MVA Substation at Nga Yoke Kaung 66/33/11kV 10MVA substation	1	40	4,212
2	Ayeyarwaddy Region	Myanaung (Inpin Village)	New construction of 66 kV Transmission Line 0.1 Miles double circuit from Myanaung-Hinthada line to Inpin Village (Myanaung) and 66/11 kV 5 MVA new Substation at Inpin Village in Myanaung Township		184	17,509
3	Ayeyarwaddy Region	Dedaye	New construction of 66 kV Transmission Line 15 Miles single circuit from Kyaiklat 230kV substation to Dedaye and 66/11 kV 10 MVA Substation at Dedaye Township		11	8,655
4	Ayeyarwaddy Region	Maubin (Yelwe)	New construction of 33 kV Transmission Line 9 Miles single circuit from Maubin 33/11kV substation to Yelwe village, 33/11 kV 5 MVA new Substation at Yelwe (Maubin) and 33kV Outgoing Switch Bay 2 sets at Maubin substation		51	8,874
5	Ayeyarwaddy Region	Pyarpon	New construction of 66 kV Transmission Line 15 Miles single circuit from Kyaiklat 230kV Main Substation to Pyarpon and 66/11 kV 20MVA new Substation at Pyarpon Township		19	4,346
6	Ayeyarwaddy Region	Pyarpon	New construction of 66/33kV 10MVA Substation at Pyarpon Township		9	5,488
7	Ayeyarwaddy Region	Bogale	New construction of 66 kV Transmission Line 21 Miles single circuit from Pyarpon 66/11kV Substation to Bogale Township and 66/11 kV 10 MVA new Substation at Bogale Township		22	3,562
8	Ayeyarwaddy Region	Bogale	New construction of 66/33 kV 10MVA Substation at Bogale Township		31	4,179
9	Ayeyarwaddy Region	Zalun	New construction of 66 kV Transmission Line 13.5 Miles single circuit from Yekyi-Hinthadalin to Zalun Township and 66/11 kV 5 MVA new Substation at Nyaungpin market (Zalun)		158	11,906
10	Ayeyarwaddy Region	Laymyatnar	New construction of 66 kV Transmission Line 15 Miles single circuit from Hinthada 66kV Substation to Laymyatnar Township and 66/11 kV 5 MVA new Substation at Laymyatnar Township		73	6,978
11	Ayeyarwaddy Region	Ingapu (HtooKyi)	New construction of 66 kV Transmission Line 0.5 Miles double circuit from Myanaung-Hinthada line to HtooKyi (Ingapu) and 66/11 kV 5MVA new Substation at HtooKyi (Ingapu)		65	7,010

Sr. No	State/Region	Name of Township	Name of Sub-Projects Ayeyarwaddy Region	Effective Indicator		
				Electrified Town	Electrified Villages	Additional households to be electrified
12	Ayeyarwaddy Region	Danubyu	New construction of 66 kV Transmission Line 16 Miles single circuit from Zulun substation to Danubyu and 66/11 kV 10 MVA new Substation at Danubyu		20	2,131
<b>Total Amount for Ayeyarwaddy Region</b>				<b>1</b>	<b>683</b>	<b>84,850</b>

Sr. No	State/Region	Name of Township	Name of Sub-Projects Bago Region (East)	Effective Indicator		
				Electri-fied Town	Electri-fied Villages	Additional Electrified Households
1	Bago Region (East)	Pyontazar	New construction of 33 kV Transmission Line 2 Miles double circuit from Nyaung Lay Pin- Daik U 33kV line to Pyontazar, 33/11 kV 10 MVA new Substation at Pyontazar	1	18	1,809
2	Bago Region (East)	Kyauk Ta Khar (Taw Kywe Inn)	New construction of 33 kV Transmission Line 5.1 Miles single circuit from Penewgone - KanNyutKwin 33kV Line to Taw Kywe Inn, 33/11 kV 10 MVA new Substation at Taw Kywe Inn (Kyauk Ta Khar )	1	27	3,385
3	Bago Region (East)	Kanyut kwin	Upgrading 33/11kV 5 MVA Present Substation to 33/11kV 10 MVA Substation at Kanyutkwin	1	16	4,110
4	Bago Region (East)	Oktwin	Upgrading 33/11kV 3 MVA Present Substation to 33/11kV 10MVA Substation at Oktwin	1	43	8,769
5	Bago Region (East)	Swar	New construction of 33 kV Transmission Line 3.9 Miles single circuit from Thargaya substation to Swar Township (near graveyard),33kV line 0.55 Miles double circuit from near graveyard to Swar Township Office,33/11 kV 10 MVA new Substation at Swar Township Office and 33kV Outgoing Switch Bay 2 sets at Thargaya substation	1	52	5,784
6	Bago Region (East)	Kawa	Upgrading 33/11kV 3 MVA Present Substation to 33/11kV 10MVA Substation at Kawa	1	40	17,155
<b>Total Amount for Bago Region (East)</b>				<b>6</b>	<b>196</b>	<b>41,012</b>

Sr. No	State/Region	Name of Township	Name of Sub-Projects Bago Region (West)	Effective Indicator		
				Electrified Town	Electrified Villages	Additional households to be electrified
1	Bago Region (West)	Paungde	New construction of 66 kV Transmission Line 30 miles single circuit from 230/66kV Shwedaung Gas Turbine to existing 33/11kV Paungde Substation and 66/33 kV 20 MVA new Substation at Paungde Substation	6	402	79,835
2	Bago Region (West)	Monyo (Hteintaw)	New construction of 33 kV Transmission Line 15 Miles single circuit from Monyo 33/11kV Substation to Hteintaw (Monyo), 33/11 kV 10 MVA new Substation at Hteintaw (Monyo) and 33kV Switch Bay (2sets) at Monyo Substation		37	3,298
3	Bago Region (West)	Innma	New construction of 33 kV Transmission Line 12 Miles single circuit from Paungde Substation to Innma and 33/11 kV 10 MVA new Substation at Innma Township	1	84	5,450
4	Bago Region (West)	Hmattaing	New construction of 33 kV Transmission Line 8 Miles single circuit from Paungde Substation to Hmattaing Township Office and 33/11 kV 10 MVA new substation at Hmattaing	1	56	8,943
5	Bago Region (West)	Thegon	Upgrading 33/11kV 3 MVA Present Substation to 33/11kV 10MVA Substation at Thegon and new construction of 33kV Transmission Line 0.5miles double circuit from Pyay-Paungde Line	1	96	10,420
6	Bago Region (West)	Pateegon	Upgrading 33/11kV 1.25x2 MVA Present Substation to 33/11kV 10MVA Substation at Pateegon and new construction of 33kV Transmission Line 0.8miles double circuit from Pyay-Paungde Line	1	86	2,709
<b>Total Amount for Bago Region (West)</b>				<b>10</b>	<b>761</b>	<b>110,655</b>
<b>Total Amount for Bago Region</b>				<b>16</b>	<b>957</b>	<b>151,667</b>

Sr. No	State/Region	Name of Township	Name of Sub-Projects Mon State	Effective Indicator		
				Electrified Town	Electrified Villages	Additional households to be electrified
1	Mon State	Kyaikhto	New construction of 33 kV Transmission Line 6 Miles single circuit from Kyaikhto (Saungnainggyi) 33/11kV substation to Kim Pun Sakham and 33/11 kV 10 MVA new Substation at Kyaikhto Township	1	20	6,738
2	Mon State	Paung (Pankon)	New construction of 33 kV Transmission Line 0.14 Miles double circuit from Thahton-Paung 33kV line to Pankone village, 33/11 kV 10 MVA new Substation at Pankone (Paung)		32	13,724

Sr. No	State/Region	Name of Township	Name of Sub-Projects Mon State	Effective Indicator		
				Electrified Town	Electrified Villages	Additional households to be electrified
3	Mon State	Thanbyuzayat (Wekame)	New construction of 33 kV Transmission Line 19 Miles single circuit from Thanbyuzayat 33/11kV substation to Wekame village and 33/11 kV 10 MVA new Substation at Wekame (Thanbyuzayat)		19	3,209
4	Mon State	Mawlamyine	Upgrading Nantay 66/11kV 10 MVA Present Substation to 66/11kV 20MVA Substation at Nantay (Mawlamyine)	1	-	3,563
5	Mon State	Bilin	New construction of 66 kV Transmission Line 40 Miles single circuit from 230kV Thahton Substation to Bilin and 66/33 kV 20MVA new Substation at Bilin	1	42	14,564
6	Mon State	Bilin (Melan)	New construction of 33 kV Transmission Line 12.5 Miles single circuit from Bilin 33/11kV Office Substation to Melan village, 33/11 kV 5 MVA new Substation at Melan (Bilin) and 33kV Switch Bay 2 Sets at Bilin Township Office Substation		9	959
<b>Total Amount for Mon State</b>				<b>3</b>	<b>122</b>	<b>42,757</b>

Sr. No	State/Region	Name of Township	Name of Sub-Projects Kayin Region	Effective Indicator		
				Electrified Town	Electrified Villages	Additional households to be electrified
1	Kayin State	Paingkyon (Paung village)	New construction of 33 kV Transmission Line 11 Miles single circuit from Paingkyon 33/11kV Substation to Paung village and 33/11 kV 5 MVA new Substation at Paung village (Paingkyon)	1	44	4,422
2	Kayin State	Hpapon	New construction of 33 kV Transmission 34 Miles single circuit from Kataingti 66/33kV Substation to Hpapon and 33/11 kV 10 MVA new Substation at Hpapon Township	1	19	1,236
3	Kayin State	Hpa-nn (Eaindu)	New construction of 66 kV Transmission Line 12 Miles single circuit from Hpa-Ann (HpaYarKone Substation) to Eaindu, 66/11 kV 5 MVA new Substation at Eaindu (Hpa-nn) and 66 kV Switch Bay (1) Set at HpaYarKone Substation		23	6,402
4	Kayin State	Kyainseikgyi	New construction of 66 kV Transmission Line 41 Miles single circuit from 9 mile Switching Substation to Kyainseikgyi and 66/11 kV 10 MVA new Substation at Kyainseikgyi	1	36	6,335
5	Kayin State	KanMa Maung	New construction of 66 kV Transmission Line 35 Miles single circuit from ThatonGTFactory to Warboetaw - Kanmamaung and 66/11 kV 5 MVA new Substation at Kanmamaung		1	1,883

Sr. No	State/Region	Name of Township	Name of Sub-Projects Kayin Region	Effective Indicator		
				Electrified Town	Electrified Villages	Additional households to be electrified
6	Kayin State	KanMaMaung (Kataingti)	New construction of 66 kV Transmission Line 23 Miles single circuit from Kanmamaung to Kataingti and 66/33 kV 10 MVA new Substation at Kataingti		6	1,653
7	Kayin State	Hpa-An (Nyaung Gone)	New construction of 66 kV Transmission Line 0.5 Miles double circuit from Thaton-Warboetaw-Kanmamaung to Nyaung Gone and 66/11 kV 10 MVA new Substation at Nyaung Gone (Hpa-An)	1	25	1,613
8	Kayin State	Hpa-An (Warboetaw)	New construction of 66 kV Transmission Line 0.5 Miles double circuit from Thaton-Warboetaw-Kanmamaung to Warboetaw (Hpa-An) and 66/11 kV 5 MVA new Substation at Warboetaw (Hpa-An)	1	12	1,899
9	Kayin State	Zarthapyin	New construction of 66 kV Transmission Line 0.3 Miles double circuit from Mawlamyine-Payargone Line to Zarthapyin and 66/11 kV 5 MVA new Substation at Zarthapyin		39	2,377
<b>Total Amount for Kayin Region</b>				<b>5</b>	<b>205</b>	<b>2,7820</b>

**Electricity Supply Enterprise (ESE), Confirm Proposal List for Power Network Development Project (ADB Loan)**

Sr. No	State/Region	Name of Township	Name of Sub-Projects Rakine State	Effective Indicator		
				Electrified Town	Electrified Villages	Additional Electrified Households
1	Rakhine State	Thandwe (ShewHlay)	New construction of 66 kV Transmission Line 1.2 Miles double circuit from Taungkote-Thandwe line to ShewHlay Village and 66/11 kV 5 MVA new Substation at ShewHlay(Thandwe)		40	5,420
2	Rakhine State	Ponnagyun (Yoetayoak)	New construction of 66 kV Transmission Line 0.7 Miles double circuit from Ponnagyun-Kyauktaw to Yoetayoak village and 66/11 kV 5 MVA new Substation at Yoetayoak (Ponnagyun)		31	5,291
3	Rakhine State	Ramree (Aunghlapyin)	New construction of 66 kV Transmission Line 13.2 Miles single circuit from Ramree substation to Aunghlapyin village, 66/11 kV 5 MVA new Substation at Aunghlapyin (Ramree) and 66kV Switch Bay 1Set at Ramree Substation		29	2,050
4	Rakhine State	Minpya (KyaukKhoke)	New construction of 33 kV Transmission Line 0.5 Miles double circuit from Minpya-Myaypone line to KyaukKhoke Village and 33/11 kV 5 MVA new Substation at KyaukKhoke (Minpya)		13	2,858
5	Rakhine State	Thandwe (Thabyuchaing)	New construction of 66 kV Transmission Line 10 Miles single circuit from Kyaukgyi substation to Thabyuchaing Village, 66/11 kV 5 MVA new substation at Thabyuchaing (Thandwe) and 66 kV Switch Bay 1Set at Kyaukgyi Substation		16	2,813



Sr. No	State/Region	Name of Township	Name of Sub-Projects Rakine State	Effective Indicator		
				Electrified Town	Electrified Villages	Additional Electrified Households
6	Rakhine State	Kyauk Taw (ApaukWa)	New construction of 66 kV Transmission Line 0.5 Miles double circuit from Ponnagyun-Kyauk Taw line to ApaukWaVillage, 66/11 kV 5 MVA new Substation at ApaukWa(Kyauk Taw) and 66kV Switch Bay 1Set at Ponnagyun Substation		24	5,119
7	Rakhine State	Youngpye (Kyauk Ni Maw)	New construction of 66 kV Transmission Line 25.2 Miles single circuit from Ramree 66kV substation to Kyauk Ni Maw Village, 66/11 kV 5 MVA new Substation at Kyauk Ni Maw (Ramree) and 66kV Switch Bay 1Set at RamreeSubstation		34	4,287
8	Rakhine State	Mrauk U (Teinnyo)	New construction of 66 kV Transmission Line 12 Miles single circuit from Mrauk U substation to TeinnyoVillage, 66/11 kV 5 MVA new Substation at Teinnyo(Mrauk U) and 66kV Switch Bay 1Set at Mrauk U Substation		32	5,991
9	Rakhine State	Gwa (Kyain Ta Li)	New construction of 66 kV Transmission Line 42.8 Miles single circuit from Thandwe to Kyein Ta Li and 66/11 kV 5 MVA new Substation at Kyain Ta Li(Gwa)		46	2,865
<b>Total Loan Amount for Rakine State</b>					<b>265</b>	<b>36,694</b>
<b>Grand Total</b>				<b>25</b>	<b>2,232</b>	<b>343,788</b>