Environmental Monitoring Report

Project Number: 41614-036
April 2017

Period: January 2016 – June 2016

IND: Assam Power Sector Enhancement Investment Program - Tranche 4

Submitted by

Assam Power Distribution Company Limited, Guwahati

Asian Development Bank

NK/JB

ASSAM POWER DISTRIBUTION COMPANY LIMITED

Reg. Office: Bijulee Bhawan, Paltanbazar, Guwahati-781 001, Assam
CIN: U40109AS2003SGC007242
PROJECT MANAGEMENT UNIT, 4th Floor, Bijulee Bhawan,
Tel. No.0361-2607533, Fax: 0361-2739526, E-mail: pmu_ascb@rediffmail.com

No. ASEB/PMU/T-4/235/2014/Pt-I/128 Date : 01-03-2017

ASIAN DEVELOPMENT BANK
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COUNTRY DIRECTOR'S OFFICE
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To,

Country Director

Indian Resident Mission, ADB

4 San Martin Marg, Chanakyapuri,

New Delhi -110021

Subject: **Re-submission of Biannual Environmental Safeguard Monitoring Report (January – June, 2016) under Loan No. 3200 – IND(Tranche -4).**

Sir,

Please find enclosed herewith the re-submission of Biannual Environmental Safeguard Monitoring Report (January – June, 2016) under Loan No. 3200 – IND (Tranche -4) for your needful action from your end.

Thanking you

Yours faithfully,

1/3/17

Director,

PMU/APDCL

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NK 06
Hard copy rec'd

Assam Power Sector Enhancement Investment Program

Tranche – 4

(Loan No.: 3200-IND)

Bi-Annual

Environmental Safeguard Monitoring Report

(Jan - June, 2016)

February, 2017

Prepared by the Assam Power Distribution Company Limited for the Asian Development Bank

Abbreviation

ADB	Asian Development Bank
AEGCL	Assam Electricity Grid Corporation Ltd.
AP	Affected People
APSEIP	Assam Power Sector Enhancement Investment Program
ASEB	Assam State Electricity Board
D.C.	District Collector
EA	Executing Agency
ESMU	Environmental and Social Management Unit
GHG	Green House Gas
GOA	Government Of Assam
GOI	Government Of India
GRC	Grievance Redress Mechanism
IA	Implementing Agency
IEE	Initial Environmental Examination
Ltd.	Limited
LAA	Land Acquisition Act
LAO	Land Acquisition Officer
MFF	Multi-Tranche Financing Facility
PAP	Project Affected Persons
PMU	Project Management Unit
ROW	Right of Way
RF	Resettlement Framework
RP	Resettlement Plan
RPD	Resettlement Planning Document
S/S	Sub Station
SEIA	Summary Environmental Impact Assessment
SIEE	Summary Initial Environmental Examination
SRPD	Short Resettlement Planning Document
T&D	Transmission and Distribution
T/L	Transmission Line
T & T	Transmission and Transformation

Contents

Annexure:

A. PROJECT INFORMATION

A-1: General

i.	Name of Project	Assam Power Sector Enhancement Investment Program
ii.	Loan Number	3200-IND
iii.	Name of Monitoring/Reporting Agency and address	Director, Project Management Unit (PMU) Assam Power Distribution Company Limited (APDCL), 4th Floor, Bijulee Bhawan, Guwahati, 781001, Assam
iv.	Monitoring Period (Season/month)	January to June, 2016
v.	Report No.	03
vi.	Report for the period	January to June, 2016
vii.	Date of reporting	February, 2017
viii.	Type of Contract	Multi-Tranche Financing Facility (MFF)

A-2: Subproject Details

S.No.	List of sub-projects	Name of the PIU(Annexure 1)
Package-1: Construction of New 33/11kV Sub-Stations, 33kV & 11kV Lines, 33kV Terminal Equipment and 33kV & 11kV Railway/River Crossings**(Annexure 5)**		
Lot 1	i. 7 Nos. New 2X5 MVA, 33/11kV Substations; ii. New 33kV Lines (108.35km)[1]; iii. New 11kV Lines (62km); iv. 1 no. Railway track crossing in the 33kV Line; v. 3 Nos. Railway track crossing in the 11kV Line;	Tinsukia Electrical Circle
Lot 2[2]	i. 2 Nos. New 2X5 MVA, 33/11kV Substations; ii. 15 km 33kV Line on GI STP with AAAC Wolf conductor form Namrup substation and 10km from Tingkhong substation to Kaliapani substation with terminal equipment at Namrup substation &Tingkhong substation. iii. New 11kV Lines (22km);	Dibrugarh Electrical Circle
	i. 2 Nos. New 2X5 MVA, 33/11kV Substations; ii. New 33kV LILO Lines (18km); iii. New 11kV Lines (35.1km); iv. 1 no. Railway track crossing in the 33kV Line; v. 3 Nos. Railway track crossing in the 11kV Line;	Sivasagar Electrical Circle

[1] The line length for 33kV & 11kV lines for Lot 1 is subject to change due to changes in Chabua substation location.

[2] The line length for 33kV & 11kV lines for Lot 2 is subject to change due to changes in substation location (Gharamara [Kaliapani], Radhabari [Rangagorah] and Namsung [Podumoni].

S.No.	List of sub-projects	Name of the PIU(Annexure 1)
Lot 3	i. 3 Nos. New 2X5 MVA, 33/11kV Substations; ii. New 33kV Lines with terminal equipment (76km); iii. New 11kV Lines (76km); iv. 1 no. Railway track crossing in the 33kV Line; v. 1 no. River crossing in the 33kV Line. vi. 4 Nos. Railway track crossing in the 11kV Line;	Golaghat Electrical Circle
	i. 6 Nos. New 2X5 MVA, 33/11kV Substations; ii. New 33kV LILO Lines (20km) iii. New 33kV Lines with terminal equipment (131km) iv. New 11kV Lines (125km)	Tezpur Electrical Circle
	1 No., 33kV strengthening of River crossing span at Ghola river in between 33kV line from Rowta-Kasubil with rail pole.	Mangaldoi Electrical Circle
Package 2: Augmentation and R&M of 33/11kV Substations, Construction of 33kV & 11kV Lines and Construction of 11kV ABC Lines**(Annexure 6)**		
A - 33kV Lines for system strengthening		
i.	New Lines at Dibrugarh Electrical circle (45km S/C).	Dibrugarh
ii.	New Lines at Tezpur Electrical circle (20km S/C).	Tezpur
iii.	New Lines at Mangaldoi Electrical circle (0.4km) and Upgrade Lines (33.4km).	Mangaldoi
B - 11kV Lines for system strengthening		
i.	3 Nos. New Lines at Dibrugarh Electrical circle	Dibrugarh
ii.	4 Nos. New Lines at Sivasagar Electrical circle	Sivasagar
iii.	9 Nos. New Lines at Golaghat at Electrical circle	Golaghat
iv.	5 Nos. New Lines at Tinsukia Electrical circle	Tinsukia
v.	10 Nos. New Lines at Jorhat Electrical circle	Jorhat
vi.	3 Nos. New Lines at Tezpur Electrical circle	Tezpur
vii.	4 Nos. New Lines at Bongaigaon Electrical circle	Bongaigaon
viii.	3 Nos. New Lines at Barpeta Electrical circle	Barpeta
C - Substation Augmentation		
i.	Augmentation of existing 2X2.5 MVA Transformer to 2X5 MVA Transformer at 33/11kV Galeky substation in Sivasagar electrical circle.	Sivasagar
ii.	Augmentation of existing 1X2.5 MVA + 1X1.6MVA Transformer to 1X2.5 MVA +1X5 MVA Transformer at 33/11kV Namti substation in Sibsagar electrical circle.	Sivasagar
iii.	Augmentation of existing 1X2.5 MVA + 1X5 MVA Transformer to 2X5 MVA Transformer with provision of Terminal equipment for Namprup-Rajgarh Line at 33/11kV Rajgarh substation Dibrugarh	Dibrugarh

S.No.	List of sub-projects	Name of the PIU(Annexure 1)
	electrical circle.	
iv.	Augmentation of existing 2X3.15 MVA Transformer to 2X5 MVA Transformer at 33/11kV Jamuguri substation in Tezpur electrical circle.	Tezpur
v.	Augmentation of existing 1X2.5 MVA Transformer to 2X5 MVA Transformer at 33/11kV Chilapathar substation in Lakhimpur electrical circle.	Lakhimpur
vi.	Augmentation of existing 2X2.5 MVA Transformer to 2X5 MVA Transformer at 33/11kV Kamalpur substation in Rangia electrical circle.	Rangia
D - 11kV Arial Bunched Cables (ABC)		
i.	2 Nos. New 10km ABC Lines at Sivasagar electrical circle.	Sivasagar
ii.	3 Nos. New16km ABC Lines at Golaghat electrical circle.	Golaghat
iii.	New 4.95km ABC Lines at Guwahati electrical circle-I.	GEC 1
E - Meter Testing Laboratory-JorhatElectrical Circle		
i.	Supply and setting up of an independent Energy Meter Testing Laboratory with a semi- automatic 10 position meter test bench at Jorhat engineering college.	Jorhat
F - R&M works of 33/11kV Substations		
A.	**Civil Works**	
i.	2 Nos. Substations at Dibrugarh electrical circle.	Dibrugarh
ii.	7 Nos. Substations at Tinsukia electrical circle.	Tinsukia
iii.	4 Nos. Substations at Sivasagar electrical circle.	Sivasagar
iv.	5 Nos. Substations at Kokrajhar electrical circle	Kokrajhar
v.	3 Nos. Substations at Bongaigaon electrical circle	Bongaigaon
vi.	4 Nos. Substations at Guwahati electrical circle	Guwahati
vii.	3 Nos. Substations at Tezpur electrical circle	Tezpur
viii.	2 Nos. Substations at Lakhimpur electrical circle	Lakhimpur
ix.	6 Nos. Substations at Cachar electrical circle	Cachar
x.	2 Nos. Substations at Jorhat electrical circle	Jorhat
B.	**Electrical Works**	
xi.	3 Nos. Substations at Nagaon electrical circle.	Nagaon
xii.	1 No. Substations at Cachar electrical circle.	Cachar
xiii.	2 Nos. Substations at Mangoldoi electrical circle.	Mangaldoi
xiv.	1 Nos. Substations at Morigaon electrical circle.	Morigaon
xv.	6 Nos. Substations at Tinsukia electrical circle.	Tinsukia
xvi.	5 Nos. Substations at Sivasagar electrical circle	Sivasagar
xvii.	2 Nos. Substations at Sivasagar electrical circle	Dibrugarh

S.No.	List of sub-projects	Name of the PIU(Annexure 1)
G - R&M works of 33kV Lines		
i.	33kV S/C Lines for LTPS-Sonari Line for Napuk substation- PSC Pole, AAA Wolf Conductor, Span 40 M	Sivasagar
ii.	33kV S/C Lines for NTPS-Salkatoni Line for Borhat substation- PSC Pole, AAA Wolf Conductor, Span 40 M	Sivasagar
Package 3: Mobile Testing Vehicles for T&C Divisions & Mobile Maintenance Vehicles for Sub-Divisions in Assam and Mobile Trailer Mounted 33/11kV Substations for Emergency Restoration of Distribution system		
Lot 1	**A. Mobile Testing Vehicles for T&C Divisions:** i. 5 Nos. in Upper Assam Zone ii. 5 Nos. in Central Assam Zone iii. 8 Nos. in Lower Assam Zone **B. Mobile Maintenance Vehicle for Sub-Divisions:** i. 5 Nos. in Upper Assam Zone ii. 2 Nos. in Central Assam Zone iii. 13 Nos. in Lower Assam Zone	
Lot 2	**C. Mobile Trailer Mounted 33/11kV Substations for Emergency Restoration of Distribution system:** i. 1 No. in Guwahati Electrical Circle-I. ii. 1 No. in Jorhat Electrical Circle	i. GEC 1 Md. NuruzZaman, DGM, 94351-01046 ii. Jorhat Kumud Ch. Dihingia, DGM, 94351-51358
Package 4: Supply of Intelligent Modems Including Accessories at Consumer Premises in Different Towns under 19 Electrical Circles		
	i. Installation and interfacing of the existing meters at the Consumer premises with the Modems. ii. Integration of the meter data into the Head end Meter Data Acquisition Software for Display of Meter data. iii. Provision of meter data in standard format (like XML) to APDCL for consumption by the existing SAP ISU System. iv. Warranty Support for the supplied equipment.	

B. IMPLEMENTATION STATUS

B.1 Procurement Status

The package wise procurement status as per discussion and information provided by PMU is as under:

- The 'signing of contract' for Package-1 has happened on July 31, 2015 and the contractor (M/S NECCON) has mobilized from 17th September, 2015. Till this reporting period seventeen sub-stations site has been handed to the contractor.
- Package 2 price bid was opened on 29.06.2015. The price bid was sent for ADB's approval on 05.09.2015. The approval from ADB was received on 07.10.2015. Notice of award of contract to M/s T & T Projects issued on 23.12.2015 and it is effective.

- Package 3, (Lot I) revised bid was floated on 31.08.2015.The Technical Bid was opened on 27.10.2015 and the bid evaluation report send to ADB on 16.12.15 for approval. For Lot 2, the contract awarded to M/s Win Power on 28th September, 2015 and it is effective.
- Package 4 works is being retendered after ADB's approval. Information for bidding floated on 9th May, 2016 and bidding submission is likely to happen by 9th August, 2016.

B.2 Sub-Project Implementation Status

Sl.No	Name of Subprojects	Progress as on date of Report
Lot 1	**Tinsukia Electrical Circle** i. 7 Nos. New 2X5 MVA, 33/11kV Substations;	• The site for seven sub-stations is finalized. • The location of Mahakali sub-station has shifted to Chabua Tea Estate. Avoided acquisition of private land. • The IEE checklist prepared for Chabua sites sub-stations to assess suitability of the site and possible impacts – no significant impacts. • The acquisition of private land for 33/11kV Gelapukhuri substation through mutual negotiation is completed. • The implementing agency (Tinsukia Electrical Division) has submitted to PMU/PIU the requisition for purchasing private land for 33/11kV Gangabari sub-stations. • Construction work has started inChabua and Powai sub-stations. In case of Dhola sub-station, work is expected to start soon.
	ii. New 33kV Lines (108.35km); iii. New 11kV Lines (62km); iv. 1 No. Railway track crossing in the 33kV Line; v. 3 Nos. Railway track crossing in the 11kV Line;	• Route survey of distribution line is in progress. No construction activities have started with respect to distribution line till the month of June, 2016.
Lot 2	**Dibrugarh Electrical Circle** i) 2 Nos. New 2X5 MVA, 33/11kV sub-stations;	• Site for Gharamara sub-station is yet to be finalized.PMU/PIU has approved the shifting of Namsang sub-station to Padumani underTinsukia Electrical Circle. However, the identification of site at Padumoni is in progress.
	ii) 15 km 33kV Line on GI STP with AAAC Wolf conductor form Namrup sub-station and 10km from Tingkhong sub-station to Kaliapani sub-station with terminal equipment at Namrup sub-station &Tingkhong sub-station. iii) New 11kV Lines (22km);	• Route survey of distribution line is in progress. No construction activities have started with respect to distribution line till the month of June, 2016.
	Sivasagar Electrical Circle i. 2 Nos. New 2X5 MVA, 33/11kV sub-stations;	• Acquisition of private land for 33/11kV Napuk substation through mutual negotiation is completed. • The geographical location of Borhat sub-stations was checked with the technical team and the location were changed during DPR stage.
	ii. New 33kV LILO Lines (18km); iii. New 11kV Lines (35.1km);	• Route survey of distribution line is in progress. No construction activities have started with respect to distribution line till the

Sl.No	Name of Subprojects	Progress as on date of Report
	iv. 1 no. Railway track crossing in the 33kV Line; v. 3 Nos. Railway track crossing in the 11kV Line;	month of June, 2016.
	Golaghat Electrical Circle i) 3 Nos. New 2X5 MVA, 33/11kV sub-stations; ii) New 33kV Lines with terminal equipment (76km); iii) New 11kV Lines (76km); iv) 1 no. Railway track crossing in the 33kV Line; v) 4 Nos. Railway track crossing in the 11kV Line;	• The sites for three sub-stations are located in tea estate land. • Due to technical and land related reasons, officials of IA has written to PMU/PIU for changing the sub-stations site at Radhabari to Rangagorah tea estate. Final confirmation from PMU/PIU is awaited. • Pholongani (Naharbari) and Doloujan sub-stations are underGolaghat Electric Division. • Route survey of distribution line is in progress. No construction activities have started with respect to distribution line till the month of June, 2016.
Lot 3	**Tezpur Electrical Circle** i) 6 Nos. New 2X5 MVA, 33/11kV Substations; ii) New 33kV LILO Lines (20km) iii) New 33kV Lines with terminal equipment (131km) iv) New 11kV Lines (125km)	• The sites for six sub-stations are finalized. • Three sub-stations are located on government land and concern government department has donated the land. The mutation of land is in progress. The case for transferring land ownership in name of APDCL is with DC, Tezpur. Being followed-up. • Three sub-stations are located in tea estate land. IA received NOC from two estates and is awaited from Borjuli Tea Estate. • The line survey is progress for 33kV and 11kV distribution lines in Lot-3 of Package-1 under Tezpur Electrical Circle.
	Mangaldoi Electrical circle i) 1 No., 33kV strengthening of River crossing span at Ghola river in between 33kV line from Rowta-Kasubil with rail pole.	No activity has started in this reporting period.

C. DESIGN AND ENGINEERING STATUS

Item	Status	Follow up Required (Y/N)	Type of Required Action
Detailed engineering design of the sub-project submitted by the Contractor.	In Progress	Yes.	The built-up area of the sub-station building are less than threshold limit, hence, EC is not envisaged.
Changes in project design/scope (Occurred or envisaged).	Being Reviewed	Administrative approval for shifting of sub-stations from Mahakali to Chabua and from Namchung to Padumoni S/S has been received. However, the site at Padumoni is yet to be confirmed by PMU/IA.	Shifting of sub-station site from Gharamara and Padumoni is being reviewed. IEE prepared for the project shall be updated after finalizing of sub-station site. In addition, alignment of 33kV and

Item	Status	Follow up Required (Y/N)	Type of Required Action
		Due to technical and land related reasons, officials of IA has written to PMU/PIU for changing the sub-station at Radhabari to Rangagorah tea estate.	11kV distribution lines associated with these two sub-station is yet to be finalized.

D. COMPLIANCE STATUS

D.1 Compliance with National&State Statutory Environmental Requirement

S.No	Notification/Rule	Requirements	Compliance Status
1.	The Environment Impact Assessment Notification, 2006, as amended	All development project listed in Schedule 1 of EIA notification require to get prior Environmental Clearance.	Power distribution projects are excluded from the Schedule-1 list of EIA notification, 2006.
2.	The Water (Prevention and Control of Pollution) Act, 1974, with Rules	Water Quality and discharge of sewage from project or any other establishment such as labour camp.	Contractor is yet to start water quality sampling and its testing. 10-15 labours are staying in the labour camp provided at each 17 sub-stations construction site. The waste water generated is of no major concern, provided it is drained to soak pit.
3.	The Air (Prevention and Control of Pollution) Act, 1981, with Rules	Compliance to National Ambient Air Quality Standard	Contractor is still to start the air quality monitoring. The activities associated with sub-stations construction are the major source of dust generation. Hence, watering of haulage road or any such source would be monitored during dry season.
4.	The Ozone Depleting Substances (Regulation and Handling) Rules, 2001 as amended	Avoid equipment using VFCs/PCBs	Monitoring will be carried out to check use of CFCs/PCBs in equipment.
5.	The Batteries (Management and Handling) Rules, 2010	Bulk consumer is responsible to (i) ensure that used batteries are not disposed of in any manner other than by depositing with the registered dealer/manufacturer/recycler or at designated collection centres and (ii) file half yearly return in Form VIII to the SPCB.	Considering scale of construction, generation of battery waste is not envisaged. However, if so happen the compliance would be monitored.
6.	Hazardous and other Waste (Management and Transboundary Movement) rules, 2016	Used/burned transformer oils to be dispose-off in accordance with the Rules. Disposal and Decontamination of empty containers contaminated with hazardous chemicals/waste in accordance to rules. (As per schedule	Handling of hazardous waste (Transformer oil) will be done in accordance to amended rules 2016.

S.No	Notification/Rule	Requirements	Compliance Status
		1)	
7.	Noise Pollution (Regulation & Control) Rules, 2000	Compliance with Ambient Noise Standards in accordance to land use of the area	Contractor is still to start noise monitoring.
8.	The Forest (Conservation) Act, 1980	Clearance from MoEF/Forest Department if the line passes through the forest area.	No sub-stations site requires diversion of forest land. However, two trees will be cut at Borjuli sub-station site. IA contacted local forest department on need for permission for tree cutting.

D.2 Compliance with ADBs Environmental Safeguards (SPS, 2009)

S.No	ADBs Safeguard Requirements	Compliance Requirement	Status
1.	Environmental Assessment	Identify Potential environmental impacts on various resources and determine its significance in consultation with all stakeholders	As per IEE prepared for the project falls under Category –B. An EMP is prepared to avoid/mitigate the impacts identified in IEE.
2.	Environmental Planning and Management	The borrower will prepare an EMP that address the potential impacts and risks identified in IEE.	The contractor has mobilized his team at 17 sub-station site and has started establishing site facilities. The Contractor has submitted their Environment Management Plan (EMP) compliance report for the period April to June, 2016.
3.	Information Disclosure	The borrower will submit to ADB, the final IEE and environmental monitoring report.	The final IEE is submitted and disclosed in website of APDCL and ADB. The original IEE needs to be updated considering into account the changes at sub-project level. Once done it will be disclosed after getting ADB's approval.
4.	Consultation and Participation	The borrower will carry out consultation with affected persons and other stakeholders. The consultation process and its results are to be documented and reflected in environmental report.	Public consultation was carried out during IEE preparation. In addition, consultation meeting are being conducted with officials of PIU, tea estate, private land owner whose land has been acquired.
5.	Grievance Redress Mechanism	The borrower will establish a mechanism to receive and facilitate resolution of affected persons concerns, complaints and grievance about the project's environmental performance.	PIU has directed its field implementation agency for establishing GRM through their letter dated December 29, 2015. The Implementing Agency is yet to response regarding establishing of GRC.
6.	Monitoring and Reporting	The borrower will prepare periodic monitoring reports that describe progress with implementation of EMP and compliance issues and corrective actions.	This environmental monitoring report is for period of January-June, 2016 capturing the progress of EMP implementation at each sub-project.
7.	Unanticipated environmental impacts	The borrower will update the environmental assessment and EMP where unanticipated environmental impacts become apparent.	The Chabua (Mahakali), Padumoni (Namsang),Rangagorah (Radhabari)sub-station site location has changed. This also involves change in alignment of 33kV and 11kV distribution line. Once all sub-station sites and its associated distribution lines alignment is finalized, IEE and EMP will be updated.

S.No	ADBs Safeguard Requirements	Compliance Requirement	Status
8.	Biodiversity conservation and sustainable NRM	The borrower will assess major threat to the biodiversity.	The sub-projects are not located in RF/PF, National Parks, and Wildlife Sanctuaries. Hence, no threat and degradation to critical habitat & natural habitat.
9.	Pollution Prevention and Abatement	Pollution prevention and control technologies consistent with international good practices such as EHS guidelines of the World Bank group.	The implementation of various preventive and mitigation measures listed in the EMP for pollution abatement in the project will be monitored.
10.	Occupational, Health and Safety	The borrower will provide workers with safe and healthy working environment, provide PPE to minimize risks, render training, document the accidents, diseases & incidents, and provide emergency prevention and response managements.	PPE are provided during construction of sub-stations. However, non-compliance was also reported and will be monitored.
11.	Physical Cultural Resources (CPR)	The borrower to avoid significant damage to physical cultural resources.	No damage to CPR.

D.3 Compliance with Covenant

Item No.	Covenants	Status of Compliance
Schedule 5, para. 7	The Borrower shall ensure or cause the EA to ensure that all land and all rights-of-way required for the Project, and all Project/Subproject facilities are made available to the Works contractor in accordance with the schedule agreed under the related Works contract and all land acquisition and resettlement activities are implemented in compliance with (a) all applicable laws and regulations of the Borrower and the State relating to land acquisition and involuntary resettlement; (b) the Involuntary Resettlement Safeguards; (c) the RF; and (d) all measures and requirements set forth in the respective RP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Out of 20 substations, only 3 substations will be constructed on private land belong to individual owner which will be acquired through mutual negotiation. Land for 33/11kV Napuk substation (Lot-3) and Gelapukhuri (Lot-1) has already been acquired and that for Gangabari sub-station (under Lot-1) will be acquired. The 16 sub-stations location is identified in tea estate land and government land, and one sub-station site is yet to be confirmed by the PMU/IA. Most of the project sites are made available to the works Contractor. All the land acquisition and resettlement activities are being implemented in compliance with the applicable laws and regulations.
Schedule 5, para. 8	Without limiting the application of the Involuntary Resettlement Safeguards, the RF or the RP, the Borrower shall ensure or cause EA to ensure that no physical or economic displacement takes place in connection with any Subproject until: (a) compensation and other entitlements have been provided to affected people in accordance with the RP; and (b) comprehensive income and livelihood restoration program has been established in accordance with the RP.	For Napuk & Gelapukhuri sub-station site, compensation for land acquired has been paid to individual owners. However, The process of acquisition is in progress for Gangabari sub-station. No physical or economic displacement will take place in connection with any sub-project under Tranche-4. Compensation and other entitlements will be paid in accordance with the RP in case of any unforeseen circumstance.
Schedule 5, para. 9	The Borrower shall ensure or cause EA to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project, and all Subprojects' facilities comply with (a) all applicable laws and regulations of the Borrower and the State relating to environment, health, and safety; (b) the Environmental Safeguards; (c) the EARF; and (d) all measures and requirements set forth in the respective IEE and EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	The requisite regulatory requirements will be complied with and compliance monitoring will be done for EMMP implementation by the contractors.

Item No.	Covenants	Status of Compliance
Schedule 5, para. 10	The Borrower shall ensure or cause EA to ensure that the Project does not involve any indigenous people's risks or impacts within the meaning of the SPS. If due to unforeseen circumstances, the Project involves any such impacts, the Borrower shall take all steps necessary or desirable to ensure that the Project complies with all applicable laws and regulations of the Borrower and State and with the SPS.	Initial RP has not identified any indigenous people. No indigenous people were identified during initial sub-stations site verification survey. However, all steps necessary or desirable will be taken to ensure that the Project complies with all applicable laws and regulations of the Borrower and State and with the SPS.
Schedule 5, para. 11	The Borrower shall ensure or cause EA to ensure that all necessary budgetary and human resources to fully implement the EMP, the RP and the IPP as required, are made available.	The budget for RP shall be through counterpart funding and that of EMP has been included in the contracts of works.
Schedule 5, para. 12	The Borrower shall ensure or cause EA to ensure that all bidding documents and contracts for Works contain provisions that require contractors to: (a) comply with the measures and requirements relevant to the contractor set forth in the IEE, the EMP, and the RP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set out in a Safeguards Monitoring Report; (b) make available a budget for all such environmental and social measures; (c) provide the Borrower with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, or the RP; (d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and (e) fully reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction;	The EMP is made a part of the contract with the provision of Budget for all the environmental and social measures. All the necessary steps will be taken in due course of time for any unanticipated environmental resettlement of indigenous people risks or impacts that arise during construction.
Schedule 5, para. 13	The Borrower shall ensure or cause EA to ensure the following: (a) submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission; (b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, or the RP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and (c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP or the RP promptly after becoming aware of the breach.	The second bi-annual Social & EnvironmentalSafeguard Monitoring Report for the period July- December, 2015 has already been submitted to ADB on 3/05/2016. All the necessary safeguard monitoring will be done time basis and will be included in the bi-annual Safeguard Reports as per the prescribed guidelines.

Item No.	Covenants	Status of Compliance
Schedule 5, para. 15	The Borrower and EA shall ensure that Works contracts under the Project follow all applicable labour laws of the Borrower and the State and that these further include provisions to the effect that contractors; (a) carry out HIV/AIDS awareness programs for labour and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction; and (b) follow and implement all statutory provisions on labor (including not employing or using children as labor, equal pay for equal work), health, safety, welfare, sanitation, and working conditions. Such contracts shall also include clauses for termination in case of any breach of the stated provisions by the contractors.	Civil works are in progress at sub-stations site under Lot-1, Lot-2 and Lot- 3 and the Contractor compliance to statutory requirement will be checked during site visit.

D.4 Compliance with Environmental Management Plan

Project Activity	Potential Environmental Impact	Mitigation Action	Compliance Status (Annexure 2)
Pre-Construction			
Temporary use of lands	Impact to the existing environment	Selection of lands adhering to local laws and regulations and in close consultation with LAs Contraction facilities should be placed at least 10 m away from water bodies, natural flow paths, important ecological habitats and residential areas	• As per sub-stations land availability and site finalization status available from implementing agency, 13 substations are proposed in tea estate land, 3 in private land and 3 in government land. Namsung substation site is yet to be finalized by the IA.
Substation location and design	Noise generation Exposure to noise, Nuisance to neighboring properties Disturbance to the adjacent lands and the people due to cut and fill operations	Substation designed to ensure noise will not be a nuisance. Maintain adequate clearance, construction of retaining structures, minimize cut and fill operations adjoining to the dwellings	• 15 sub-stations site are located away from settlement area, except for 5 sub-stations • Sub-stations site located within close proximity to residential areawill be monitored.
Location of poles and line alignment and design	Exposure to safety related risk	Setback of dwellings to overhead line route designed in accordance with permitted level of power frequency and the regulation of supervision at sites.	• Route survey activity is in progress • The shifting of sub-station has also affectedthe alignment of feeder and distribution line (incoming and outgoing). Hence, the alignment of feeder and distribution line associated with each of sub-stations shifted is yet to be finalised.
	Impact on water bodies/ land/ residences	Consideration of site location at where they could be located to avoid water bodies or agricultural land as much as possible.	• Majority of the sub-stations site is located away from water bodies. Regular monitoring will be done during site visit to prevent and mitigate impact on water bodies.
Equipment Specifications and design parameters	Release of chemicals and harmful gases in receptors (air, water, land)	PCBs not used in substations transformers or other project facilities or equipment	• Would be monitored at time of procurement of equipment.
Encroachment into precious	Loss of precious ecological values/	Avoid encroachment by Careful site selection to avoid existing	• Sub-stations sites are not located in

Project Activity	Potential Environmental Impact	Mitigation Action	Compliance Status (Annexure 2)
ecological areas	damage to precious species	settlements.	ecological sensitive area.
Encroachment into Forest Areas	Trees to be cut for distribution line	Avoid trees to be cut by careful site alignment selection. Minimize the RoW wherever possible Afforestation to be done in coordination with forest department.	• Sub-stations sites are not located in forest area.
Involuntary resettlement or land acquisition	Loss of lands and structures	Compensation paid for temporary/ permanent loss of productive land.	• Acquisition of private land is completed for two substations and is in progress for one substation i.e., Gangabari. • The identification and verification of encumbrances within ROW of distribution line is in progress. No involuntary resettlement envisaged.
Encroachment into farmland	Loss of agricultural productivity.	Use existing poles wherever possible Avoid sighting new poles on farmland wherever Farmers compensated for any permanent loss of productive land trees that need to be trimmed or removed along RoW.	• Likely damage to crops/trees will be identified during route survey and alignment finalization of distribution line.
Interference with drainage patterns/Irrigationchannels	Temporary flooding hazards/ loss of agricultural production.	Appropriate sighting of poles to avoid channel interference.	• The necessary measures will be taken to avoid disturbance to natural drainage pattern.
Explosions/ Fire	Hazards to life.	Design of substations to include modern fire control systems/ firewalls. Provision of firefighting equipment to be located close to transformers, power generation equipment.	• Fire wall will be provided between the two transformers and firefighting system will be provided at operation stage.
Construction			
Removal or disturbance to other public utilities.	Public inconvenient.	Advance notice to the public about the time and the duration of the utility disruption. Use of well trained and experienced machinery operators to reduce accidental damage to the public utilities. Restore the utilities immediately to overcome public inconvenient.	• No disruption to utility services is envisaged.
Acquisition of paddy fields and	Loss of agricultural productivity.	Avoid farming season wherever possible for the project	• Private land is being acquired and

Project Activity	Potential Environmental Impact	Mitigation Action	Compliance Status (Annexure 2)
other lands.		activities. Ensure existing irrigation facilities are maintained in working condition. Protect/ preserve topsoil and reinstate after construction completed. Repair/ reinstate damaged bunds etc. after construction completed. Compensation for temporary loss in agricultural production.	NOC/MOU has been obtained from tea estates for sub-stations construction.
Temporary outage of the electricity.	Loss of power supply to the local community when distribution lines crossing the new line are switched off.	Advance notice to the public about the time and the duration of the utility disruption. Restore the utilities immediately to overcome public inconvenient.	• No such complaints have been noticed.
Equipment layout and installation.	Noise and vibrations.	Selection of construction techniques and machinery to minimize ground disturbance.	• New technology and machinery being use as information provided by contractor.
Substation construction.	Loss of soil. Water pollution	Fill for the substation foundations obtained by creating or improving local drain system. Construction activities involving significant ground disturbance (i. e. substation land forming0 not undertaken during the monsoon season.	• Earth filling will be needed at sub-station site to bring the level at par with surrounding ground level. The activity will be monitored.
Construction schedules	Noise nuisance to neighboring properties. Nuisance to Wild life if the line route construction crosses migratory path.	Construction activities only undertaken during the day and local communities informed of the construction schedule. Complete restriction of construction work for two months before and after the known period of migration by the animals.	• No significant noise related issues are envisaged. • Sub-project locations are not situated at migration route of animals.
Provisions of facilities for construction workers.	Contamination of receptors (land, water, air).	Construction work force facilities to include proper sanitation, water supply and waste disposal facilities.	• The shelters provided to the labour require improvement and the same has been communicated during site visit. Further to prevent inflow of surface runoff during monsoon and to provide dry floor, the contractor personnel at site has been advised to raise the floor level of labour

Project Activity	Potential Environmental Impact	Mitigation Action	Compliance Status (Annexure 2)
			shelter by 1 to 2 feet above the local ground level.
Surplus earthwork/ soil.	Runoff to cause water pollution, solid waste disposal.	Any excess material will only be used as fill material offsite when the owner's agreement has been obtained and with the disposal site restored in a manner that prevents erosion and does not block any drainage path.	• Excess material from excavation for foundation of structure will be utilized for leveling the sub-station site. • Further, the necessities for culverts/hume pipe are being assessed to ensure continuous waterway.
Air Pollution	Loose dust might blow in the area causing dusty conditions.	Damping of dust by sprinkling of water within the work area and stack the loose soil and contain it with covers if required.	• The reporting period being monsoon season, no issue related to dust generation has been observed. However, this will be monitored during summer/dry season.
Wood/ vegetation harvesting, cut and fill operations.	Loss of vegetation and deforestation. Effect on fauna	Construction workers prohibited from harvesting wood in the project area during their employment. Prevent his work force from disturbing to the flora, fauna including hunting of animal and fishing in water bodies. Proper awareness programme regarding conservation of flora, fauna including ground vegetation to all drivers, operators and other workers.	• At Bindukuri, and Rakhyshmari sub-stations, labours are provided LPG and kerosene for cooking. However, in remaining sub-stations sites fuel wood is purchased from market.
Site clearance.	Vegetation	Marking of vegetation to be removed prior to clearance and strict control on clearing activities to ensure minimal clearance.	• Need for pruning tree branches has not been reported. In case if identified, it will pruned or cut after obtaining necessary permission.
	Soil erosion and surface runoff.	Construction in erosion and flood-prone areas should be restricted to the dry season. Treat clearing and filling areas against flow acceleration and construction work should be carefully designed to minimize obstruction or destruction to natural drainage.	• Earth filling activity is taken up during dry season and adequate measures are being taken during construction period to avoid interference with local drainage patters.
Mechanized construction	Noise, vibration and operator safety, efficient operation.	Construction equipment to be well maintained.	• New or maintained equipment/machinery is used during construction.

Project Activity	Potential Environmental Impact	Mitigation Action	Compliance Status (Annexure 2)
	Noise, vibration, equipment wear and tear.	Proper maintenance and turning off equipment not in use.	
Construction of roads for accessibility.	Increase in airborne dust particles. Increased land requirement for temporary accessibility.	Existing roads and tracks used for construction and maintenance access to the site wherever possible. New access ways restricted to a single carriageway width within the RoW.	• Access road concerns are being reviewed and any improvement of road will be limited within the ROW.
Transportation and storage of materials.	Nuisance to the general public.	Transport loading and unloading of construction materials should not cause nuisance to the people by way of noise, vibration and dust. Avoid storage of construction materials beside the road, around water bodies, residential or public sensitive locations. Construction materials should be stored in covered areas to ensure protection from dust, emissions and such materials should be bundled in environment friendly and nuisance free manner.	• The damage of existing road shall be maintained by the Contractor at their own cost to prevent inconvenience to the local resident during transportation of goods, equipment and materials. • Improvement required, except for cement storage. Excavated earth needs to be stacked at one location.
Trimming/ cutting of trees within RoW.	Fire hazards. Lose of vegetation and deforestation.	Trees allowed to growupto a height within the RoW by maintaining adequate clearance between the top of tree and the conductor as per the regulations. Trees that can survive pruning to comply should be pruned instead of cleared. Felled trees and other cleared or pruned vegetation to be disposed of as authorized by the statutory bodies.	• Need for pruning tree branches has not been reported. In case if identified, it will pruned or cut after obtaining necessary permission.
Health and safety.	Injury and sickness of workers and members of the public.	Contract provisions specifying minimum setback requirements for construction camps from water bodies, reserved areas etc. Contractor to prepare and implement a health and safety plan. Contractor to arrange for health and safety awareness program.	• Contractor has been advised to carry out disinfection/provide filter and storage tank for drinking water, and to kept reinforcement bar away from labour movement areas along with barricading of excavated areas.
Nuisance to nearby properties.	Losses to neighboring land uses/ values.	Construction clauses specifying careful construction practices. Use existing ways as much as possible. Productive land will be reinstated following completion of	• No such impact envisaged.

Project Activity	Potential Environmental Impact	Mitigation Action	Compliance Status (Annexure 2)
		construction. Compensation will be paid for loss of production, if any.	
Operation and Maintenance			
Electric shock	Death or injury to the workers and public.	Security fences around substation. Establishment of warning signs. Careful design using appropriate technologies to minmise hazards.	
Noise generation.	Nuisance to the community around the site.	Provision of noise barriers.	
SF6 Gas levels.	Leakage of SF6	Monitoring of SF6 gas form Electrical Substations.	• Will be monitored after completion and of operational facilities.
Maintenance of Distribution line.	Exposure to electromagnetic interference.	Distribution line to comply with the design parameters of electromagnetic interference from cables.	
Substation maintenance.	Exposure to electromagnetic interference.	Substation design to comply with the parameters of electromagnetic interference from instruments within floor area.	
Oil spillage.	Contamination of land/ nearby water bodies.	Substation transformers located within secure and impervious bundled areas with a storage capacity of at least 100% of the capacity of oil in transformers and associated reserve tanks.	

D.5 Compliance with Environmental Monitoring Plan

Environmental Component	Project Stage	Parameters to be Monitored[3]	Responsibility	Frequency	Compliance Status
Air Quality	Pre-construction stage	Visible dust.	Contractor/EA	One time	Monitoring is yet to start.
	Construction Stage.	Visible dust, use of water sprays for dust suppression.	Contractor	One time	Monitoring will be done by the contractor as per specified in the bid documents.
	Operation Stage.	Visible dust, use of water sprays for dust suppression.	EA	Once in 2 years	Will be monitored during operation stage.
Water Quality	Pre-construction Stage	EA and contractors to document water source and wastewater treatment design.	Contractor/EA	One time	Monitoring is yet to start.
	Construction Stage.	EA and contractors to document water source and wastewater treatment system installed pH, BOD, Oil & Grease.	Contractor	One time	Monitoring will be done by the contractor as per specified in the bid documents
	Operation Stage	Water source and wastewater treatment.	EA	Once in 2 years	Will be monitored during operation stage.
Noise/ Vibration.	Pre-construction stage	Noise level [dB (A)]	Contractor/EA	One time	Monitoring is Yet to start.
	Construction Stage.	Noise level [dB (A)]	Contractor	One time	Monitoring will be done by the contractor as per specified in the bid documents
	Operation Stage.	Noise level [dB (A)]	EA	Once in 2 years	Will be monitored during operation stage.
Soil	Pre-Construction stage	Visible spills and/ or soil staining, Oil & grease.	Contractor/EA	One time	Advise contractor for storage of transformer oil over impervious platform and under shed.
	Construction Stage.	Visible spills and/ or soil staining, Oil & grease.	Contractor	One time	
	Operation Stage.	Visible spills and/ or soil staining, Oil & grease.	EA	Once in 2 years	Will be monitored during operation stage.

[3]Air emissions will be limited to dust and construction vehicle emissions during construction; other primary air pollutant monitoring is not deemed necessary. Wastewater will be limited to domestic/sanitary discharge during construction and operation; if groundwater is used by substations there could be some impact on water availability in nearby wells used for community water supplies. Potential soil contamination will be limited to fuel and lubricating oil spills during construction and possible mineral oil spills from transformers during operations.

E. ANY OTHER ENVIRONMENTAL ASPECT NOT COVERED IN INITIAL ENVIRONMENTAL EXAMINATION

There are possibilities of changes in the sitting of sub-stations due to technical and other issues. IA is assessing the suitability of each of this sub-station and a final confirmation is awaited.

F. INSTITUTIONAL MECHANISM

Sl.No.	Parameters	Compliance Status
1	Numbers of Staff deputed/ employed for environment safeguards	One designated Assistant General Manager is heading the Environmental and Social Management Unit (ESMU) in PMU. ESMU is being assisted and supported by Individual Environmental & Social Safeguard Experts and three support staffs.
2	PMU/PIU established as per proposed institutional mechanism	The ESMU has been reconstituted vide Office Order No. APDCL/PMU/APSEIP/ESMU/2015-16/249/ Dated19-march-2016. Refer to **Annexure - 3.**
3	GRC formation	Correspondence have been made to the respective zone vide letter No. CPM (PIU)/APDCL/Tech-8/Tranche-4/2013-14/117, dated 29/12/2016. Refer to **Annexure- 4.** Implementingagency still has to respond.

G. GRIEVANCE REDRESS AND THEIR RESOULTION

S.No	Complainant Name and Address	Date of receipt	Subject/ Issue	Remarks
I	No Complaint received till date.	NIL	NIL	No issue reported till date.

H. ISSUES AND ACTIONS RECOMMENDED

Sl. No	Activity/Key issue	Suggestion	Responsibility	Action Taken till June, 2016
i.	Though contract has been awarded, the geographical locations of four sub-stations propose for change needs are still to be confirmed.	The proposed change of geographical location of sub-projects should be informed to the ADB for information and seeking concurrence.	Implementing Agency	Administrative approval for shifting of sub-stations to Chabua and Padumoni S/S has been received. However, the site at Padumoni is yet to be confirmed by PMU/IA.
		Resettlement Plan and IEE prepared for the project needs to be updated once location of sub-stations are finalized.	Consultant	Changes in location of sub-stations are still being considered by IA/EA. The change in sub-stations location will also require change in alignments of 33kV & 11kV distribution line of each sub-station. Hence, after confirmation from PMU on sub-stations location and alignment finalization of both 33kV & 11kV distribution line of each sub-station, the IEE will be update.
ii.	The para 62 of Project Administration Manual mandate establishing of Grievance Redress	PMU needs to initiate the process for establishing the GRC.	Executing Agency	The ADB Cell, APDCL through their letter dated Dec 29, 2015 has directed its field units to form GRC. The Implementing Agency is yet to

Sl. No	Activity/Key issue	Suggestion	Responsibility	Action Taken till June, 2016
	Committee (GRC) at implementing agency level to deal with complaints covering environmental and social issues.			response regarding establishing of GRC.
iii.	Keeping regular follow-up on implementation status of environmental safeguards in the project.	• PMU needs to direct implementing agency and contractor to submit a quarterly progress report and conduct quarterly review meeting. • The review meeting should also be attended by representatives of the contractor also, along with official of EA, IA and Individual safeguard expert.	Executing Agency	The review meeting is being planned.
iv.	Obstruction to natural drain and need to ensure continuous waterway at Bediti, Powai, Gangabari sub-stations.	• Cross drainage structures such as hume pipe or slab/box culvert needs to be provided at sub-station approach road obstructing waterway.	Implementing Agency	The matter is being discussed with EA/IA.
v.	Manager of Radhabari Tea Estate has raised concerns regarding the cutting of shades trees and tea bushes which will come within the ROW of the incoming and outgoing 33kV and 11kV feeder line from proposed Radhabari sub-station.	A decision needs to be taken up by PMU along with IA whether to go forward with construction of sub-station or should look for another suitable site.	Implementing Agency Executing Agency	IA, Golaghat Electrical Division has written to PMU/PIU proposing shifting of sub-station to Rangagorah TE. Though a formal communication from PMU is awaited.

Annexure 1

Details of Implementing Agency, APDCL

Sl. No.	Name of the Sub station	Electrical Circle	Electrical Division	Name & Contact Numbers	Electrical Sub Division (PIU)	Name & Contact Numbers
Package-1 (Lot 1): (i) 7 Nos. of new 33/11kV Substations; (ii) New 33kV Lines (108.35km); (iii) New 11kV Lines (62km); (iv) 1 no. Railway track crossing in the 33kV Line and (v) 3 Nos. Railway track crossing in the 11kV Line						
1	33/11kV Gangabari S/S	Tinsukia	Tinsukia Division	Mr. JagadishBaishya (AGM) 94353-42745	TinsukiaESD-II	Mr. Rabi SankarSengupta, Assistant Manager, TEC, - 94350-36018
2	33/11kV Gelapukhuri S/S				TinsukiaESD-III	Mr. A.K. Bordoloi (SDE), 94350-37152
3	33/11kV Mahakali/Chabua S/S				TinsukiaESD-III	
4	33/11kV Baghjan S/S					
5	33/11kV Philobari S/S		Digboi Division	Mr. G. D. Deuri (AGM) 94350-80038	Doomdooma ESD	Mr. Debnath, SDE, 94354-75707
6	33/11kV Dhola S/S					
7	33/11kV Powai S/S				Margherita ESD	Mr. BinitaKutun, J.M, Margherita SD, 84860-34133.
Package 1 (Lot 2): (i) 2 Nos. New 2X5 MVA, 33/11kV Substations; (ii) 15 km 33kV Line on GI STP with AAAC Wolf conductor form Namrup substation and 10km from Tingkhong substation to Kaliapani substation with terminal equipment at Namrup substation &Tingkhong substation and (iii) New 11kV Lines (22km)						
8	33/11kV Gharamara S/S	Dibrugarh	Dibrugarh Division		Dibrugarh ESD-II	Mr. RajibGogoi, SDE,94357-06105 Mr. SankarMili, JM,94357-06116
9	33/11kV Namchang/Padumoni S/S				Dibrugarh ESD-I	Mr. MahenBuragohain, SDE, 94357-06104
Package 1 (Lot 2): (i) 2 Nos. New 2X5 MVA, 33/11kV Substations; (ii) New 33kV LILO Lines (18km); (iii) New 11kV Lines (35.1km); (iv) 1 no. Railway track crossing in the 33kV Line; (v) 3 Nos. Railway track crossing in the 11kV Line;						
10	33/11kV Napuk S/S	Sivasagar	Nazira Division	Mr. Dipendra Kr. Baruah (AGM), 94353-88745	Nazira ESD	Mr. DimbeswarCharukia, SDE, 94355-27488
11	33/11kV Borhat S/S				Choraideu ESD	Mr. SumitSinha, SDE, 73990-62073
Package 1 (Lot 2): (i) 3 Nos. New 2X5 MVA, 33/11kV Substations; (ii) New 33kV Lines with terminal equipment (76km); (iii) New 11kV Lines (76km); (iv) 1 no. Railway track crossing in the 33kV Line; (v) 1 no. River crossing in the 33kV Line. (vi) 4 Nos. Railway track crossing in the 11kV Line;						
12	33/11kV Dayang S/S	Golaghat	Golaghat Division	Mr. HarendraNathSaikia (AGM), 94350-54388	Golaghat ESD-I	Mr. ParagJyotiDutta, SDE, 94350-51051
13	33/11kV Naharbari S/S				Golaghat ESD-II	Mr. Kamala Kt. Pegu, SDE, 97079-99525
14	33/11kVRadhabari/Rangagorahs/S				Kamargaon ESD	Mr. B. C. Bhatta, SDE, 94353-02541

Sl. No.	Name of the Sub station	Electrical Circle	Electrical Division	Name & Contact Numbers	Electrical Sub Division (PIU)	Name & Contact Numbers
Package-1 (Lot 3):(i) 6 Nos. New 2X5 MVA, 33/11kV Substations; (ii) New 33kV LILO Lines (20km) (iii) New 33kV Lines with terminal equipment (131km) (iv) New 11kV Lines (125km); Mangaldoi Electrical Circle: 1 no, 33kV strengthening of River crossing span at Ghola river in between 33kV line from Rowta-Kasubil with rail pole.						
15	33/11kV Singri S/S	Tezpur	Dhekiajuli Division	Mr. Chandan Borah, AGM, 94350-80537	Dhekiajuli ESD-II	Mr. PranjolKakoty, SDE, 88765-89078
16	33/11kV Borsala S/S					
17	33/11kV Rakshyasmari S/S				Dhekiajuli ESD-I	Mr. Debojit Das, FME, 97076-83391
18	33/11kV Bedeti S/S		BiswanathChariali Division	Mr. Mokshada, AGM, 98540-54613	Chariali ESD	Mr. DilipSaikia, AM,94355-06295
19	33/11kV Bindukuri S/S		Tezpur Division	Mr.Rafiul Amin Dewan, 94351-07259	Tezpur ESD-II	Mr. BirinchiChetia, JE,73990-90586
20	33/11kV Borjuli S/S				Rangapara ESD	Mr. Pukhrel, SDE, 73990-90608

Annexure 2

Safeguard Implementation Status

2.1 Activities performed during Jan- June 2016

The individual Safeguard Specialist provided services during the reporting period and has spent time in carrying out detailed review of project agreement, loan agreement, and social and environmental safeguard documents of the project. Follow-up for updating status on pending land status of all sub-stations with IA divisions and has appraise the PMU. The activities carried out by the Social & Environmental Consultant team during this reporting period (Jan to June 2016) are provided below.

- Follow-up with IA to collect status and to confirm location of sub-stations;
- The consultant has visited sub-projects to check compliance with environmental safeguard and measures in EMP. The detail of site visited is in Table 2.
- Prepared and submitted the monthly and quarterly progress reports due during this reporting period;
- Prepared and submitted the Bi-Annual Social & Environmental Safeguard Monitoring Report to the Director, PMU, and APDCL.
- Prepared and submitted the inspection reports for site visit conducted to sub-projects indicated in Table 1;
- Advice PMU to communicated the contractor to conduct environmental monitoring at sub-station site and to submit their monitoring schedule;

2.2 Safeguard Review Findings

i. Sub-stations site is still being identified and finalized. The details of sub-stations site finalized till this reporting period is in Table 1.

Table 1: Sub-stations site finalisation status

Sub-project Particular			Original RP, August 2014		Status as on June, 2016		
Sl. No	Name of sub-station	Area (Ha)	Ownership	Name of the Owner	Area (Ha)	Ownership	Name of the Owner
1	33/11kV Bindukuri	0.2	Tea Estate Land	Tezpur& Gogra TE	0.268	Tea Estate Land	Tezpur& Gogra TE
2	33/11kV Borjuli	0.134	Government Land	Not Applicable	0.134	Tea Estate Land	Borjuli TE (changed during DPR stage)
3	33/11kV Bedeti	0.3	Tea Estate Land	Bihali TE	0.133	Tea Estate Land	Bihali TE
4	33/11kV Singri	0.268	Government Land	Not Applicable	0.268	Government Land	Not Applicable
5	33/11kV Rakhyshmari	0.268	Government Land	Not Applicable	0.268	Government Land	Not Applicable
6	33/11kV Borsola	0.268	Government Land	Not Applicable	0.268	Government Land	Not Applicable
7	33/11kV Baghjan	0.268	Tea Estate Land	Baghjan TE	0.268	Tea Estate Land	Baghjan TE
8	33/11kV Gangabari	0.45	Private Land	Md. Samad Ali	0.10	Private Land	Md. Samad Ali
9	33/11kV Mahakali	0.134	Private Land	Chandradhar Malakar	0.134	Tea Estate Land	Chabua TE
10	33/11kV Dholla	0.268	Tea Estate Land	Dholla TE	0.268	Tea Estate Land	Dholla TE
11	33/11kV Gelapukhuri	0.134	Private Land	Mr.MrinalDohutia	0.134	Private Land	Mr.MrinalDohutia
12	33/11kV Philobari	0.268	Tea Estate Land	Philobari TE	0.268	Tea Estate Land	Philobari TE
13	3311/kV Powai	0.132	Tea Estate Land	Pawoi TE	0.268	Tea Estate Land	Pawoi TE
14	33/11kV Borhat	0.162	Government Land	APDCL	0.268	Tea Estate Land	Barasali TE (changed during DPR stage)
15	33//11kV Napuk	0.159	Private Land	Md. Asfik Ali	0.268	Private Land	Madhurjya Handique
16	33/11kV Gharamara	0.201	Private Land	Naresh Chandra Dev	0.268	Tea Estate Land	Rungliting TE

Sub-project Particular			Original RP, August 2014		Status as on June, 2016		
Sl. No	Name of sub-station	Area (Ha)	Ownership	Name of the Owner	Area (Ha)	Ownership	Name of the Owner
17	33/11 kV Namsung	0.201	Private Land	Jagat Ray Ghatwar	----	Site shifted to Podumani and is not yet finalized.	
18	33/11kV Radhabari	0.258	Tea Estate Land	Radhabari TE	0.16	Tea Estate Land	Rangagorah TE
19	33/11kV (Nahorbari)	0.408	Tea Estate Land	Naharbari TE	0.268	Tea Estate Land	Naharbari TE
20	33/11kV Doloujan (Dayang)	0.194	Tea Estate Land	Dayang TE	0.268	Tea Estate Land	Dayang TE

ii. ADB's concurrence received for shifting of Mahakali and Namsung sub-stations site to Chabua and Podumoni sites, respectively. The IEE checklists have been prepared for Chabua sub-station and for Podumani will be prepared after site finalisation.

iii. Forests (Conservation) Act, 1980 and Rules 1981

- No sub-stations site requires diversion of forest land. However, the Divisional Forest Officer (DFO) Tezpur has directed the Range Officer, Dhekiajuli to verify trees to be cut for issuance of tree cutting permission.
- In case of distribution line, route survey has been carried out for 33kV and 11kV distribution line in Lot-3 package-1 under Tezpur Electrical Circle and the distribution line is not passing through forest land. In instance where felling/pollarding/pruning of trees if required to maintain the electrical clearance will be documented and executed with the permission of the local forest officer.

iv. EIA Notification September 14, 2006 and amended in December 22, 2014: The built-up area of office building and control rooms at each sub-station is less than threshold limit i.e. of 20,000 sq.mt. Hence, Environmental Clearance for sub-stations is not required.

v. Environmental Management Plan: The contractor has mobilized and establishing of site facilities is in progress. The contractor compliance to EMP measures is being monitored at sub-stations site where establishment of camp site is completed during site visits.

vi. Environmental Monitoring

- The contractor is still to carry out the environmental monitoring (air, water, noise) before start of civil work as per Environmental Monitoring Plan in EMP.
- The Contractor has submitted the compliance to Environment Management Plan (EMP) for the period April to June, 2016 to the Director, PMU, APDCL and is under review.

2.3Details of Site Visits

The consultant has undertaken site visit in month of February, April and June, 2016 and details of sub-stations visited is in Table 2.The site visit focused and tried to (a) check land possession status of sub-stations, understand the possible impacts due to development of approach road up-to identified sub-station site; (b) assess environmental suitability of the locations; (c) Contractor compliance to EMP at site of Rakhyshmari, Borsola, Singri, Borjuli, Bediti and Bindukuri in Sonitapur district and Phulongani (Naharbari), Doloujan (Dayang) and Rangagorah (Radhabari) substations where civil work has commenced; and (d) advice PMU/IA on social and environmental safeguard compliance with ADB SPS 2009.

Table 2: Details of Sub-Project Inspected

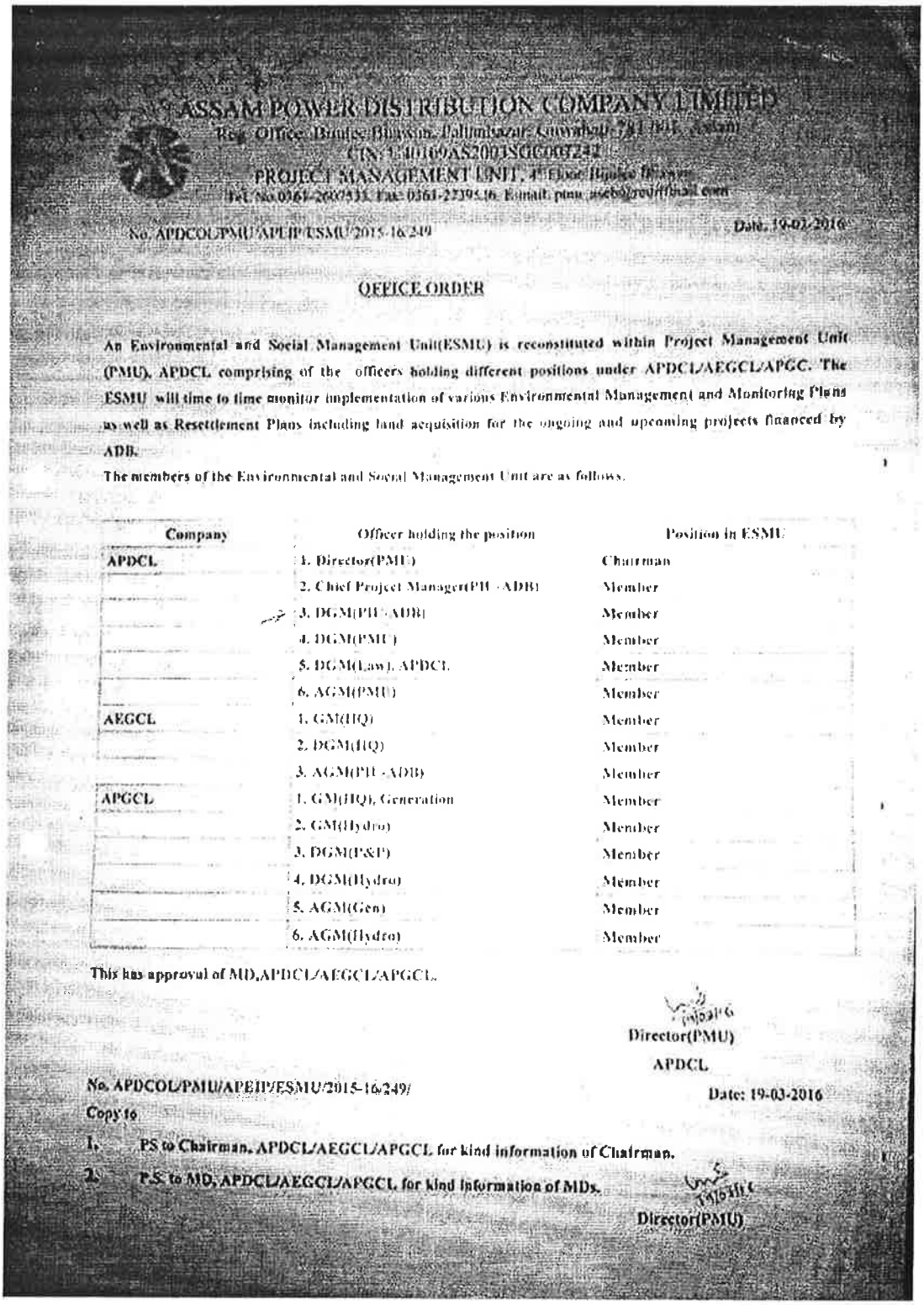
S.No	Site Visit Date	Sub-stations visited	District
1	February, 2016	Doloujan (Dayang)	Golaghat
2	April, 2016	Rakhyshmari, Borsola, Singri, Borjuli, Bediti and Bindukuri	Sonitpur
3	June, 2016	Phulangani (Naharbari), Doloujan (Dayang) and Rangagorah (Radhabari)	Golaghat

The observations on social safeguard activities related to planning stage are listed below:

- No labour licenses were available with the contractor.
- The contractor is still to deploy the E&S Officer at sub-stations inspected.
- Drinking water storage/treatment arrangement for labour is make-shift arrangement and unhygienic.
- Earth filling requirements identified at sub-stations visited to bring the final level at par with surrounding ground level.
- The construction materials stacking at work site is not systematic, thereby limiting working zone and with possibility of inducing accidents.
- The quality of shelter provided to the labour is of poor quality and cannot withstand the weather condition of the area.Further to prevent inflow of surface runoff during monsoon and to provide dry floor, the floor level of labour shelter should be increased by 1 to 1.5 feet above the local ground level.
- To ensure safety of public, the damage of existing road shall be maintained by the Contractor at their own cost due to transportation of their goods, equipment and materials.
- The approach road to Doloujan (Dayang)-stations should be from SPCB permitted sources. The details of which is not available with the contractor.

Annexure 3

Scanned copy of Office order for ESMU formation



ASSAM POWER DISTRIBUTION COMPANY LIMITED

Reg. Office: Bijulee Bhawan, Paltanbazar, Guwahati-781 001, Assam

CIN: U40109AS2003SGC007237

PROJECT MANAGEMENT UNIT, 4th Floor, Bijulee Bhawan

Tel. No.0361-2607331, Fax: 0361-2739516, E-mail: pmu.apdcl@rpsg.in, www

No. APDCOL/PMU/APEIP/ESMU/2015-16/249 Date: 19-03-2016

OFFICE ORDER

An Environmental and Social Management Unit(ESMU) is reconstituted within Project Management Unit (PMU), APDCL comprising of the officers holding different positions under APDCL/AEGCL/APGC. The ESMU will time to time monitor implementation of various Environmental Management and Monitoring Plans as well as Resettlement Plans including land acquisition for the ongoing and upcoming projects financed by ADB.

The members of the Environmental and Social Management Unit are as follows.

Company	Officer holding the position	Position in ESMU
APDCL	1. Director(PMU)	Chairman
	2. Chief Project Manager(PIU -ADB)	Member
	3. DGM(PIU-ADB)	Member
	4. DGM(PMU)	Member
	5. DGM(Law), APDCL	Member
	6. AGM(PMU)	Member
AEGCL	1. GM(HQ)	Member
	2. DGM(HQ)	Member
	3. AGM(PIU-ADB)	Member
APGCL	1. GM(HQ), Generation	Member
	2. GM(Hydro)	Member
	3. DGM(P&P)	Member
	4. DGM(Hydro)	Member
	5. AGM(Gen)	Member
	6. AGM(Hydro)	Member

This has approval of MD,APDCL/AEGCL/APGCL.

Director(PMU)
APDCL

No. APDCOL/PMU/APEIP/ESMU/2015-16/249/ Date: 19-03-2016

Copy to

1. PS to Chairman, APDCL/AEGCL/APGCL for kind information of Chairman.
2. P.S. to MD, APDCL/AEGCL/APGCL for kind information of MDs.

Director(PMU)

Annexure 4

Grievance Redress Mechanism

APDCL does not have any specific Environment or Social Safeguards Policy regarding generation/distribution subprojects currently. SPS 2009 requires APDCL to establish a Grievance Redress Mechanism (GRM) having suitable grievance redress procedure to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about the subproject's environmental performance. The grievance mechanism will be scaled to the risks and adverse impacts on environment due the subproject type, size, type of area (sensitive area) and impacts. It should address affected people's concerns and complaints promptly, using a transparent process that is gender responsive, culturally appropriate, and readily accessible to all segments of the affected people at no costs and without retribution. This GRM will consist of a Grievance Redress Committee (GRC) headed by the Project Head. The committee will consist of the following:

i. Project Head, APDCL
ii. Sub District Magistrate/District Revenue Officer or their nominee
iii. Representative of local Panchayat/Council
iv. Representative Women representative of village/council
v. Representative of EPC contractor
vi. AGM of Environment and Social Management Unit (ESMU) at PMU or nominee

GRM will provide an effective approach for resolution of complaints and issues of the affected person/community. Project Management Unit (PMU) shall formulate procedures for implementing the GRM, while the PIU shall undertake GRM's initiatives that include procedures of taking/recording complaints, handling of on-the-spot resolution of minor problems, taking care of complainants and provisions of responses to distressed stakeholders etc. paying particular attention to the impacts on vulnerable groups.

Grievances of affected persons (APs) will first be brought to the attention of the Project head of the PIU. Grievances not redressed by the PIU will be brought to the Grievance Redress Committee (GRC) set up to monitor subproject implementation for each subproject affected area. The GRC will determine the merit of each grievance, and resolve grievances within two weeks of receiving the complaint. The proposed mechanism does not impede access to the country's judicial or administrative remedies. The AP has the right to refer the grievances to appropriate courts of law if not satisfied with the redress at any stage of the process. The PIU will keep records of all grievances received including: contact details of complainant, date that the complaint was received, nature of grievance, agreed corrective actions and the date these were affected, and final outcome.

The formation of GRC is pending and the safeguard consultant has advice by communicating PMU to initiate the process. During this reporting period, the PMU through their communication **dated 29.12.2015** has directed the Implementing Agency to start formation of GRC at field level.

Annexure 5

Implementation Status - Package - 1

Package Name	Sub-Project Description	Quantity	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Change in Scope	Length (km) as per IEE	Length (km) as per BID	Remark
LOT 1	New 2X5 MVA, 33/11kV Substations	7 Nos.	2x5 MVA Baghjan	2x5 MVA Baghjan		-	-	
			2x5 MVA Gangabari	2x5 MVA Gangabari		-	-	
			2x5 MVA Gelapukhri	2x5 MVA Gelapukhri		-	-	
			2x5 MVA Mahakali	2x5 MVA Mahakali	Site shifted to Chabua Tea Estate	-	-	Letter No. CPM (PIU)/APDCL/Tech - 8/Tranche 4/2013 - 14/115, Dated: 01-12-2015
			2x5 MVA Powai	2x5 MVA Powai		-	-	
			2x5 MVA Philobari	2x5 MVA Philobari		-	-	
			2x5 MVA Dhola	2x5 MVA Dhola		-	-	
	New 33kV Lines	108.35 km	26 km 33 kV line from 66/11 kV Rupai GSS to Baghjan S/S	26km 33kV line on GI STP with AAAC Wolf Conductor from 132/66/33kV Rupai GSS to Baghjan substation.	-	26	26	
			Terminal Equipments at Gangabari S/S, 12 km 33 kV line from Makum 33/11 kV S/S to Gangabari with GI STP	12km 33kV line on GI STP with AAAC Wolf Conductor from Makum 33/11kV substation to Gangabari substation with terminal equipment at Makum S/S.	-	12	12	
			Terminal Equipment at Gelapukhuri S/S, 10 km 33 kV line from Barguri 33/11 kV S/S to Gelapukhuri with GI STP	10km 33kV line on GI STP with AAAC Wolf Conductor from Barguri 33/11kV substation to Gelapukhuri substation	-	10	10	

Package Name	Sub-Project Description	Quantity	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Change in Scope	Length (km) as per IEE	Length (km) as per BID	Remark
				with terminal Equipment at Barguri substation.				
			10 km 33 kV line from Napukhuri 33/11 kV S/S to Mahakali with steel tubular pole.	10km 33kV line on GI STP with AAAC Wolf Conductor from Napukhuri 33/11kV substation to Mahakali (Chabua) substation with terminal equipment at Napukuri substation.	-	10	10	
			4 km 33 kV line LILO at Tinsukia - Margherita line to Pawoi with steel tubular pole	4km 33kV line on GI STP with AAAC Wolf Conductor LILO on Tinsukia Margherita line to Powai substation.	-	4	4	
			25 km 33 kV line from Doomdooma 33/11 kV S/S to Philobari	25km 33kV line on GI STP with Wolf Conductor from Borsola 33/11kV substation to Philobari substation with terminal equipment at Borsola substation.	-	25	25	
			21 .35 km 33 kV line from Talap 33/11 kV S/S to Dhola	21.35km 33 kV line on GI STP with AAAC Wolf Conductor from Talap 33/11 kV substation to Dhola with terminal equipment at Talap substation.	-	21.35	21.35	
	New 11kV Lines	62km	15 km of associated 3x11 kV lines to cover six tea estates	3 nos. 11kV feeders of total length 15km on PSC poles with AAAC Raccoon	-	15	15	

Package Name	Sub-Project Description	Quantity	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Change in Scope	Length (km) as per IEE	Length (km) as per BID	Remark
				Conductor to cover 6 Nos. Tea Estates.				
			8 km for 4x11 kV Feeders on PSC poles to cover 12 Tea Estate Factories	4 Nos. 11kV feeders of total length 8 km on PSC poles with AAAC Raccoon Conductor to cover 12 nos. Tea Estates	-	8	8	
			4x11 kV Feeders on PSC poles to cover 2 Tea Estates. Total length is 7 km	4 Nos. 11kV feeders of total length 7 km on PSC poles with AAAC Raccoon Conductor to cover 2 nos. Tea Estates.	-	7	7	
			3x1 1 kV Feeders on PSC poles to cover four Tea Estates. Total length is 7 km.	3 Nos. 11kV feeders of total length 7 km on PSC poles with AAAC Raccoon Conductor to cover 4 nos. Tea Estates.	-	7	7	
			2x11 kV Feeders from Powai 2x5 MVA, 33/11 kV substation to cover two Tea Estates. Total length is 8 km.	2 Nos.11kV feeders of total length 8 km on PSC poles with AAAC Raccoon Conductor to cover 2 nos. Tea Estates.	-	8	8	
			4x11 kV Feeders on PSC poles to cover three Tea Estates. Total length is 8 km.	4 Nos. 11kV Feeders of total length 8 km on PSC poles with AAAC Raccoon Conductor to cover 3 nos. Tea Estates.	-	8	8	
			4x11 kV Feeders on PSC poles to cover four Tea Estates. Total length is 9 km.	4 Nos.11kV Feeders of total length 9 km on PSC poles with AAAC Raccoon Conductor to cover 4 nos. Tea Estates.	-	9	9	

Package Name	Sub-Project Description	Quantity	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Change in Scope	Length (km) as per IEE	Length (km) as per BID	Remark
	Railway track crossing in the 33kV Line;	1 no.	Construction of one 33 kV Railway track crossing in the 33 kV line from 66/33 kV, Rupai GSS to Baghjan 2x5 MVA, 33/11 kV substation.	1 No, 33 kV line Railway track crossing of line from 66/33kV Rupai GSS to Bhagjan 2X5 MVA, 33/11kV substation.	-	-	-	
	Railway track crossing in the 11kV Line;	3 Nos.	One No. 11 kV Railway track crossing in the 11 kV feeder from Gangabari 2X5 MVA, 33/11 kV Sub Station	1 No. 11kV line Railway track crossing of 11 kV feeder from Gangabari 2X5 MVA, 33/11kV substation	-	-	-	
			One No. 11 kV Railway track crossing in the 11 kV feeder from Mahakali 2X5 MVA, 33/11 kV Sub Station	1 No. 11kV line Railway track crossing of 11kV feeder from Mahakali 2X5 MVA, 33/11kV substation	-	-	-	
			One No. 11 kV Railway track crossing in the 11 kV feeder from Pawoi 2X5 MVA, 33/11 kV Sub Station	1 No. 11kV line Railway track crossing of 11kV feeder from Powai 2X5 MVA, 33/11kV substation	-	-	-	
LOT 2	New 2X5 MVA, 33/11kV Substations	7 Nos.	2 x 5 MVA Ghoramara	2 x 5 MVA Ghoramara	Propose for shifting to KAliapani.	-	-	The case is being reviewed by PIU
			2 x 5 MVA Numchang	2 x 5 MVA Numchang	Shifted To Podumoni	-	-	Letter No. CPM (PIU)/APDCL/Tech - 8/Tranche 4/2013 - 14/122, Dated: 16-05-2016
			2 x 5 MVA Borhat	2 x 5 MVA Borhat		-	-	
			2 x 5 MVA Napuk	2 x 5 MVA Napuk		-	-	
			2 x 5 MVA Dolujan	2 x 5 MVA Dolujan		-	-	
			2 x 5 MVA Pholongini	2 x 5 MVA Pholongini		-	-	

Package Name	Sub-Project Description	Quantity	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Change in Scope	Length (km) as per IEE	Length (km) as per BID	Remark
			2 x 5 MVA Radhabari	2 x 5 MVA Radhabari	Shifted to Rangagorah Tea Estate	-	-	Letter No. CPM (PIU)/APDCL/Tech - 8/Tranche 4/2013 - 14/128, Dated: 18-07-2016
	New 33kV Lines	119 km	15 km from Namrup substation and 1 0 km from Tingkhong substation with GI STP and Terminal Equipments at Namrup substation and Tingkhong substation	New 15km 33kV Line on GI STP with AAAC Wolf conductor form Namrup substation and 10km from Tingkhong substation to Gharamara (Kaliapani) substation with terminal equipment at Namrup substation &Tingkhong substation	-	25	25	
			15 km 33 kV feeding line for Borhat to LILO of NTPS-Salkathoni Feeder.	15km 33 kV line on GI STP with AAAC Wolf Conductor LILO on NTPS Salkathoni Line for Borhat substation.	-	15	15	
			3 km 33 kV, 1x Incoming & 1x Outgoing line.	3km 33kV D/C line on GI STP with AAAC Wolf Conductor LILO on NTPS - Sonari Line for Napuk substation.	-	3	3	
			25 km of 33 kV line from Golaghat GSS to Dayang S/S.	25km of 33kV line on GI STP with AAAC Wolf Conductor from Golaghat GSS (Tetelitol) to Doloujan substation with terminal equipment at Golaghat GSS (Tetelitol).	-	25	25	

Package Name	Sub-Project Description	Quantity	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Change in Scope	Length (km) as per IEE	Length (km) as per BID	Remark
			25 km of 33 kV line from Golaghat (Tetelitol) GSS to Nahaorbari S/S.	25km of 33kV line on GI STP with AAAC Wolf Conductor from Golaghat (Tetelitol) GSS to Pholongoni substation with terminal equipment at Golaghat GSS (Tetelitol).	-	25	25	
			26 km 33 kV line from fromLakhowjan GSS to Radhabari T.E.	26km 33kV line on GI STP with AAAC Wolf Conductor from Bokakhat (Lakhowjan) GSS to Radhabari T.E. with terminal equipment at Bokakhat GSS	-	26	26	
			10 km 33 kV line from Gelapukhuri to Namsung proposed 33/11 kV S/S	Not Present in BID document		10		Dropped at time of Bidding.
	New 11kV Lines	7 Nos.	1 5 km of associated 11 kV line.	11kV Feeder of total length 15km on PSC poles with AAAC Raccoon Conductor to cover neighboring Tea Estates.	-	-	-	
			3x1 1 kV Feeders on PSC poles to cover four Tea Estates. Total length is 7 km	11kV feeders of total length 7km on PSC poles with AAAC Raccoon Conductor to cover Tea estates.	-	-	-	
			1 8.6 km of associated 5x11 kV lines.	5 Nos.11kV Feeders of total length 18.6km on PSC poles with AAAC Raccoon Conductor to cover 7 nos. Tea Estates.	-	-	-	
			1 6.5 km of associated 4x11 kV lines.	4 Nos.11kV Feeders of	-	-	-	

Package Name	Sub-Project Description	Quantity	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Change in Scope	Length (km) as per IEE	Length (km) as per BID	Remark
				total length 16.5km on PSC poles with AAAC Raccoon Conductor to cover 5 nos. Tea Estates.				
			25 km of associated 3x11 kV lines.	3 Nos.11kV Feeders of total length 25km on PSC poles with AAAC Raccoon Conductor to cover 8 nos. Tea Estates.	-	-	-	
			26 km of associated 3x11 kV lines.	3 Nos.11kV Feeders of total length 26km on PSC poles with AAAC Raccoon Conductor to cover 7 nos. Tea Estates.	-	-	-	
			25 km of associated 4x11 kV lines.	4 Nos.11kV Feeders of total length 25km on PSC poles with AAAC Raccoon Conductor to cover 2 nos. Tea Estates.	-	-	-	
	Railway track crossing in the 33kV Line;	2 Nos.	Construction of one Railway Track Crossing for 33 KV S/C Line from 132/33 KV Gargaon GSS to New 33/11 KV Bihubar substation	1 No, 33kV Railway Track Crossing for 33 KV S/C Line from 132/33 KV Gargaon GSS to New 33/11 kV Bihubar substation.	-	-	-	
			Construction of one 33 kV Railway track crossing in the 33 kV line from Golaghat(Tetelitol) GSS to Doloujan 2X5 MVA, 33/11 kV Sub Station	1 No, 33kV line Railway track crossing for 33kV line from Golaghat (Tetelitol) GSS to Doloujan 2X5 MVA, 33/11kV substation	-	-	-	
	Railway track crossing in the 11kV Line;	5 Nos.	Railway Track Crossing for 11 kV Lakuwa Tea Feeder from New 33/11 kV Maibela substation.	1 No Railway Track Crossing for 11 KV Lakuwa Tea Feeder from	-	-	-	

Package Name	Sub-Project Description	Quantity	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Change in Scope	Length (km) as per IEE	Length (km) as per BID	Remark
				New 33/11kV Maibela substation.				
			Railway Track Crossing for 11 kV Muktabari Tea feeder from New 33/11 kV Borhat substation.	1 No Railway Track Crossing for 11 KV Muktabari Tea feeder from New 33/11kV Borhat Substation.	-	-	-	
			Railway Track Crossing for 11 kV Poitakhat - Sundar Feeder from 33/11 kV Borhat substation.	1 No Railway Track Crossing for 11 KV Poitakhat - Sundar Feeder from 33/11kV Borhat substation.	-	-	-	
			3 Nos. 11 kV Railway track crossing in the 3 Nos. 11 kV line from Doloujan 2X5 MVA, 33/11 kV substation.	3 Nos. 11kV line Railway track crossings for the 11kV line from Doloujan 2X5 MVA, 33/11 kV Sub Station.	-	-	-	
			1 No. of 11 kV Railway track crossing in the Doria T.E. 11 kV feeder from Radhabari T.E 2X5 MVA, 33/11 substation	1 No. 11kV line Railway track crossing for the Doria T.E. 11kV feeder from Radhabari T.E 2X5 MVA, 33/11 kV substation	-	-	-	
	1 no. 33kV Line River crossing	1 No.	Construction of one 33 kV D/C River crossing with High Rise Pole (24.1 M) at Dhansiri river in the 33 kV line from Golaghat(Tetelitol) GSS to Doloujan 33/11 kV substation.	1 No, 33 kV D/C line River crossing with High Rise Pole (24.1m) at Dhansiri river for the 33kV line from Golaghat(Tetelitol) GSS to Doloujan 33/11kV substation.	-	-	-	
LOT 3	New 2X5 MVA, 33/11kV Substations	6 Nos.	2 x 5 MVA Borjuli	2 x 5 MVA Borjuli	-	-	-	
			2 x 5 MVA Bindukuri	2 x 5 MVA Bindukuri	-	-	-	
			2 x 5 MVA Rakshyamari	2 x 5 MVA Rakshyamari	-	-	-	

Package Name	Sub-Project Description	Quantity	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Change in Scope	Length (km) as per IEE	Length (km) as per BID	Remark
			2 x 5 MVA Borsala	2 x 5 MVA Borsala	-	-	-	
			2 x 5 MVA Bedeti	2 x 5 MVA Bedeti	-	-	-	
			2 x 5 MVA Singri	2 x 5 MVA Singri	-	-	-	
	New 33kV Lines	151 Km	20 km 33 kV D/C line to be loop-in loop-out (LILO) between Depota Missamari line to Borjuli.	20km 33 kV D/C line on GI STP with AAAC Wolf Conductor for LILO between DepotaMissamari to Borjuli line	-	20	20	
			16 km 33 kV line from Depota GSS to Bindukuri.	16km 33 kV line on GI STP with AAAC Wolf Conductor from Depota GSS to Bindukuri with terminal equipment at Depota GSS	-	16	16	
			35 km 33 kV line from Rowta 132/33 kV substation to Rakyshmari.	35km 33 kV line on GI STP with AAAC Wolf Conductor from Rowta GSS to Rakyshmari with terminal equipment at Rowta GSS.	-	35	35	
			40 km 33 kV line from Rowta 1 32/33 kV substation (S/S) to Borsola S/S.	40km 33 kV line on GI STP with AAAC Wolf Conductor from RowtaGSStoBorsola substation with terminal equipment at Rowta GSS.	-	40	40	
			16 km 33 kV line from Gohpur 1 32/33 kV Sub Station to Bedeti S/S	16km 33 kV line on GI STP with AAAC Wolf Conductor from Gohpur GSS to Bedeti substation with terminal equipment	-	16	16	

Package Name	Sub-Project Description	Quantity	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Change in Scope	Length (km) as per IEE	Length (km) as per BID	Remark
				at Gohpur GSS.				
			24 km 33 kV line from Mizibari 33 kV SS to Singri.	24km 33 kV line on GI STP with AAAC Wolf Conductor from Mizibari 33kV substation to Singri substation with terminal equipment at Mizibari 33 kV substation.	-	24	24	
	New 11kV Lines	125 Km	4x11 kV feeders on PSC poles with a total length of 42 km.	4 Nos.11kV Feeders of total length 44km on PSC poles with AAAC Raccoon Conductor to cover 6 nos. Tea Estates	-	42	44	
			4x11 kV of feeders on PSC poles with a total length of 21 km.	4 Nos.11kV Feeders of total length 21 km on PSC poles with AAAC Raccoon Conductor to cover 3 nos. Tea Estates.	-	21	21	
			4x11 kV feeder on PSC poles. Total length is 15 km.	4 Nos.11kV Feeders of total length 15km on PSC poles with AAAC Raccoon Conductor to cover 3 nos. Tea Estates.	-	15	15	
			4x11 kV feeders on PSC poles on PSC poles. Total length is 20 km	4 Nos.11kV Feeders of total length 20km on PSC poles with AAAC Raccoon Conductor to cover 1 no. Tea Estates.	-	20	20	
			4x11 kV feeder on PSC poles on PSC poles. Total length is 15 km	4 Nos.11kV Feeders of total length 15km on PSC poles with AAAC Raccoon	-	15	15	

Package Name	Sub-Project Description	Quantity	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Change in Scope	Length (km) as per IEE	Length (km) as per BID	Remark
				Conductor to cover 4 nos. Tea Estates.				
			4x11 kV feeder on PSC poles. Total length is 10 km.	4 Nos.11kV Feeders of total length 10km on PSC poles with AAAC Raccoon Conductor to cover 3 nos. Tea Estates.	-	10	10	
	Railway track crossing in the 33kV Line;	1 No.	Strengthening of river crossing span at Ghola river in between line at 33 kV Rowta - Kasubill line with rail pole.	1 no, 33kV strengthening line River crossing span at Ghola river for 33kV line between Rowta and Kasubil with rail poles.	-	-	-	

Annexure 6

Implementation Status - Package -2 (Components wise)

A- 33kV Lines for System Strengthening

Electrical Circle	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Length (km) as per IEE	Length (km) as per BID	Length as per Actual Route survey (km)	Change in Project Scope	(Implementation Status)
Dibrugarh Electrical Circle	New 33 kV lines required: 45 km Dibrugarh Electrical Circle 33 kV S/C feeder from Namrup to Rajgarh.	New 33kV, 45 km S/C Line from Namrup to Rajgarh on PSC Poles.	45	45	46.21	Increase in length by 1.21km	Route survey completed and drawing is under review in concern Electrical circle.
Tezpur Electrical Circle	New 20 km 33 kV feeder from B. Chariali 132/33 kV Grid substation to Monabari 33/11 kV substation without river crossing.	New 33kV, 20km S/C separate feeder from Pavoi 133/33kV S/S to Monabari S/S without river crossing.	20	20	16.8	Decrease in length by 3.2km	Route survey completed and drawing is under review in concern Electrical circle.
Mangaldoi Electrical Circle	Renovation of Rowta GSS - Kasubil 33 kV line from Mohanpur Village to Ambagaon Chowk of Rowta GSS to Ksubil. Length is 9.4 km	Upgrade Rowta GSS - Kasubil S/C 33 kV, 9.4km line from Mohanpur Village to Ambagaon Chowk	9.4	9.4	---		Route survey completed and drawing is under review in concern Electrical circle.
Mangaldoi Electrical Circle	Renovation of Udalguri - Kasubil 33 kV line from Gulma to Kasubil S/S. Length is 24 km	Upgrade Udalguri - Kasubil S/C 33 kV, 24km line from Gulma to Kasubill SS	24	24	---		Route survey completed and drawing is under review in concern Electrical circle.
Mangaldoi Electrical Circle	Construction of 33 kV interconnection line between 33 kV Rowta - Kasubill line and 33 kV Udalguri - Kasubill line with of AAAC wolf(40 mtr span) 25 km 33 kV line with PSC pole with GI channel, cross arms, bracing angles etc. Length is 0.4 km	New 33 kV, 0.4km interconnection line between 33 kV Rowta - Kasubill line and 33 kV Udalguri - Kasubil line with PSC poles.	0.4	0.4	0.4	No change.	Route survey completed and drawing is under review in concern Electrical circle.

B- 11kV Lines for System Strengthening

Electrical Circle	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Length (km) as per IEE	Length (km) as per BID	Length as per Actual Route survey (km)	Change in Project Scope	Implementation Status
Dibrugarh Electrical Circle	New 30 km feeders (2 feeders of 15 km each) for 17 TEs under Rajgarh substation.	New 11kV Lines, 2 feeders of 15km each for 17 TEs under Rajgarh Substation.	2*15	2*15	12.34	Decrease in length by 17.66km.	Route survey is completed and is under review in CPM (PIU). In addition 10.12km length has been proposed to Aerial Bunch Cable line, in lieu of conductor (**refer Component D of Package-2**).
	New 14 km feeders (2 feeders of 7 km each) for 4 TEs under Hazelbank substation.	New Line 11 kV Lines, 2 feeders of 7km each for 4 TEs under Hazelbank Substation.	2*7	2*7	27.41	Increase in length by 13.41km.	Route survey completed and drawing is under review in concern Electrical circle.
	New 10 km feeder for 5 TEs under Beheating substation.	New 11 kV 10km Line for 5 TEs under Beheating Substation.	10	10	26.95	Increase in length by 16.95km.	Route survey completed and drawing is under review in concern Electrical circle.
Sivasagar Electrical Circle	New 2.5 km Mathura Tea feeder from New 33/11 kV Maibela substation.	New 11kV 2.5km Line for Mathura Tea Feeder from New 33/11 KV Maibela Substation.	2.5	2.5	4.74	Increase in length by 2.24km.	Route survey completed and drawing is under review in concern Electrical circle.
	New 14 km Lakuwa Tea feeder from New 33/11 kV Maibela substation.	New 11kV 14km Line for Lakuwa Tea Feeder from New 33/11 KV Maibela Substation.	14	14	12.815	Decrease in length by 1.19km.	Route survey completed and drawing is under review in concern Electrical circle.
	New 4 km Galeky to Sivbari TE Feeder feeding 3 TEs from Galekay substation	New 11kV, 4km Line Galeky to Sivbari TE Feeder (with combination of AB Cable and Bare Conductor) for feeding 3 TEs.	4	4	3.9	Decrease by 0.1km	Route survey completed and drawing is under review in concern Electrical circle.
	New 10 km Maduri Tea Feeder from 33/11 kV Namti substation	New 11 kV, 10km Line for Maduri Tea Feeder (with combination of AB Cable and Bare Conductor) from 33/11 KV Namti Substation.	10	10	4.12	Decrease in length by 5.8km.	Route survey completed and drawing is under review in concern Electrical circle.

Electrical Circle	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Length (km) as per IEE	Length (km) as per BID	Length as per Actual Route survey (km)	Change in Project Scope	Implementation Status
Golaghat Electrical Circle	New 19 km Tea feeder from Leteku 33/11 kV Sub Station to Bukial, Bijulee& RTS T.E.	New 11kV, 19km Tea Feeder from Leteku 33/11 kV Sub Station to feed power to Bukial, Bijulee& RTS T.E.	19	19	18.675	Decrease in length by 0.33km	Route survey completed and drawing is under review in CPM (PIU).
	New 20 km 11 kV Tea feeder from Leteku 33/11 kV Sub Station to Letekujan, Morongi, Dhanshree, NR Tea &Tanay Tea T.E.	**New** 11kV, 20km Tea Feeder from Leteku 33/11 kV Sub Station to feed power to Letekujan, Morongi, Dhanshree, N R Tea &Tanay Tea T.E.	20	20	12.81	Decrease in length by 7.19km.	Route survey completed and drawing is under review in CPM (PIU).
	New 20 km Tea feeder from Leteku 33/11 kV Sub Station to Dholaguri T.E., Sanjeev Tea Factory &Luhit Tea Factory.	**New** 11kV, 22km Tea Feeder from Leteku 33/11 kV Sub Station to feed power to Dholaguri T.E., Sanjeev Tea Factory &Luhit Tea Factory.	20	22	23.995	Increase in length by 3.99km.	Route survey completed and drawing is under review in CPM (PIU).
	New 24 km Tea feeder from Kamarbandha 33/11 kV Sub Station to Maheema, Borjan&Chakiting T.E.	**New** 11kV, 24km Tea Feeder from Kamarbandha 33/11 kV Sub Station to feed power to Maheema, Borjan&Chakiting T.E.	24	24	18.815	Decrease in length by 5.18km.	Route survey completed and drawing is under review in CPM (PIU).
	New 28 km Tea feeder from Barpathar 33/11 kV Sub Station to Pavajan, Bhagawan, Digholihola, Rengma, Tsangpul&Dhanshree T.E.	**New** 11kV 28km Tea Feeder from Barpathar 33/11 kV Sub Station to feed power to Pavajan, Bhagawan, Digholihola, Rengma, Tsangpul s Dhanshree T.E.	28	28	25.3	Decrease in length by 2.7km.	Route survey completed and drawing is under review in CPM (PIU).
	New 12 km Tea feeder from Bokakhat 33/11 kV Sub Station to Difoloo&Naharjan T.E.	**New** 11kV, 12km Tea Feeder from Bokakhat 33/11 kV Sub Station to feed power to Difoloo&Naharjan.	12	12	3.92	Decrease in length by 8.1km.	Route survey completed and drawing is under review in CPM (PIU).
	New 11 km Tea feeder from Kohora 33/11 kV Sub Station to Methoni&Hatikhuli T.E.	**New** 11kV, 11km Tea Feeder from Kohora 33/11 kV Sub Station to feed power to Methoni&Hatikhuli T.E.	11	11	18.925	Increase in 7.93km.	Route survey completed and drawing is under review in CPM (PIU).
Golaghat at Electrical Circle	New 5kms Tea Feeder from Usha 33/11 kV Sub Station to Usha T.E.	**New** 11kV, 5km Tea Feeder from Usha 33/11 kV Sub Station to feed power to Usha T.E.	5	5	0	Dropped from scope of work.	Work completed under deposit work. The same work will be undertaken at different location.

Electrical Circle	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Length (km) as per IEE	Length (km) as per BID	Length as per Actual Route survey (km)	Change in Project Scope	Implementation Status
							Identification of new location is pending.
	New 15 km Tea feerders to Halmira, North Goronga&Hautely T.E. from Golaghat -II, 2X 5 MVA, 33/11 kV substation (proposed under ADB, Tranche -3).	**New** 11kV, 15km (total length) tea Feeders to Halmira, North Goronga&Hautely T.E. from Golaghat -II, 2X 5 MVA, 33/11kV substation (proposed under ADB, Tranche -3).	15	15	13.93	Decrease in length by 1.1km.	Route survey completed and drawing is under review in CPM (PIU).
Tinsukia Electrical Circle	New 19 km feeder from Tengpani 33/11 kV S/S to feed 4 Nos TE	**New** 11kV Lines of total length 12km from Tengpani 33/11 kV Substation to feed 4 nos. T.E.	19	12	13.900	Increase in length by 1.9km.	Route survey completed and drawing is under review in concern Electrical circle.
		New 11kV Lines of total length 7km from Tengpani 33/11 kV Substation to feed 4 nos. T.E.		7	6.300	Decrease in length by 0.7km.	Route survey completed and drawing is under review in concern Electrical circle.
	New 6 km feeder from Makum 33/11 kV S/S to feed 4 Nos TE.	**New** 11kV Lines of total length 6km from Makum 33/11 kV Sub Station to feed 4 nos. T.E.	6	6	4.5	Decrease in length by 1.5km	Route survey completed and drawing is under review in concern Electrical circle.
	New 12 km feeder from Chabua 33/11 kV S/S to feed 2 Nos TE	**New** 11kV Lines of total length 12km from Chabua 33/11 kV Sub Station to feed 2 nos. T.E.	12	12	12.1	No change	Route survey completed and drawing is under review in concern Electrical circle.
	New 8 km feeder from Makum 33/11 kV S/S to Tila to feed 5 Nos TE	**New** 11kV Lines of total length 8km from Makum 33/11 kV Sub Station to Tila to feed 5 nos. T.E.	8	8	0	Dropped from scope of works.	No such place Exists in Makum as information provided by concern official.
	New 6 km feeder from Lidu 33/11 kV S/S to Tirap feed to feed Coal India Ltd 2 Nos TE	**New** 11kV Line of length 2km from Ledu 33/11 kV Sub Station to Tirap to feed Coal India	6	2	5.65	Decrease of length by 0.35km	Route survey completed and drawing is under review in concern Electrical circle.
Jorhat Electrical Circle	New 3 km feeder from 33/11 kV Gatanga S/S to GatangaTE.	**New** 11kV, 3km Tea Feeder from 33/11 kV Gatanga S/S to GatangaTE.	3	3	2.3	Decrease of length by 0.7km	Route survey completed and drawing is under review in CPM (PIU).

Electrical Circle	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Length (km) as per IEE	Length (km) as per BID	Length as per Actual Route survey (km)	Change in Project Scope	Implementation Status
	New 10 km feeder from 33/11 kV Gatanga S/S to SangsowaTE.	**New** 11kV, 10km Tea Feeder from 33/11 kV Gatanga S/S to SangsowaTE.	10	10	6.9	Decrease of length by 3.1km	Route survey completed and drawing is under review in CPM (PIU).
	New 12 km feeder from 33/11 kV Gatanga S/S to PanbariTE.	**New** 11kV, 12km Tea Feeder from 33/11 kV Gatanga S/S to PanbariTE	12	12	7.8	Decrease of length by 4.2km	Route survey completed and drawing is under review in CPM (PIU).
	New 5 km feeder from 33/11 kV Pulibor S/S to LahpohiaTE	**New** 11kV, 5km Tea Feeder from 33/11 kV Pulibor S/S to LahpohiaTE.	5	5	3.5	Decrease of length by 1.5km	Route survey completed and drawing is under review in concern Electrical circle
	New 7 km feeder from 33/11 kV Pulibor S/S to Indo Assam TE.	**New** 11kV, 7km Tea Feeder from 33/11 kV Pulibor S/S to Indo Assam TE.	7	7	3.2	Decrease of length by 3.8km	Route survey completed and drawing is under review in concern Electrical circle
	New 6 km feeder from 33/11 kV Pulibor S/S to PuronimatiTE	**New** 11kV,6km Tea Feeder from 33/11 kV Pulibor S/S to PuronimatiTE.	6	6	5.7	Decrease of length by 0.3km	Route survey completed and drawing is under review in concern Electrical circle
	New 5 km feeder from 33/11 kV Pulibor S/S to SoruchoraiTE.	**New** 11kV, 5km Tea Feeder from **33**/11 kV Pulibor S/S to SoruchoraiTE.	5	5	4.9	No change	Route survey completed and drawing is under review in concern Electrical circle.
	New 4 km feeder from 33/11 kV Borholla S/S to BorhollaTE.	**New** 11kV, 4km Tea Feeder from 33/11 kV Borholla S/S to BorhollaTE.	4	4	2.2	Decrease of length by 1.8km	Route survey completed and drawing is under review in CPM (PIU).
	New 7 km feeder for DholiTE and BokahollaTEicluding 0.6 km composite line from 33/11 kV Titabor S/S.	**New** 11kV, 7km Tea Feeder from DholiTE and BokahollaTE including 0.6 km composite line from 33/11 kV Titabor SS.	7.6	7.6	9.2	Increase in length by 1.6km	Route survey completed and drawing is under review in CPM (PIU).
	New 12 km feeder from 33/11 kV Nakachari S/S to KakajanTE.	**New** 11kV, 12km Tea Feeder from 33/11 kV Nakachari S/S to KakajanTE	12	12	9.2	Decrease of length by 2.8km	Route survey completed and drawing is under review in CPM (PIU).
Tezpur Electrical Circle	New 13 km 11 kV feeder from Bargang substation to Bedeti (For separation of Tea Industry from RGGVY feeder).	New 11kV, 14km separate Feeder from Bargang S/S to Bedeti (For separation of Tea Industry from RGGVY feeder).	13	14	6.9	Decrease of length by 6.1km	Location for Bedeti is changed to Barang TE as Bedeti will be connected to New 33/11kV Bedeti Substation.

Electrical Circle	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Length (km) as per IEE	Length (km) as per BID	Length as per Actual Route survey (km)	Change in Project Scope	Implementation Status
	New 5 km 11 kV feeder from Circuit House Tiniali to Panibharal (For separation of town feeder from RGGVY feeder).	New 11kV, 4km Feeder from Circuit Houser Tiniali to Panibharal (For separation of town feeder from RGGVY feeder).	5	4	0	Dropped from scope of works.	Work completed under R-APDRP project.
	New 8 km 11 kV feeder from Sootea 33/11 kV substation to Monai (For separation of Tea Industry).	New 11kV, 8km Feeder from 33/11kV Sootea S/S to Monai (For separation of Tea Industry).	8	8	8.85	Increase in length by 0.85km.	Route survey completed and drawing is under review in concern Electrical circle.
Bongaigaon Electrical Circle	New 1 km 11 kV line at Bongaigaon town from Birjhora 33/11 kV substation.	New 11kV,1 km Line to Bongaigaon town from Birjhora 33/11kV SS.	1	1	1.3	Increase in length by 0.3km.	Route survey completed and drawing is under review in CPM (PIU).
	New 1 km 11 kV line from Chapraguri to Dhaligaon.	New 11kV, 1 km Line from Chapraguri to Dhaligaon.	1	1	1.080	No change.	Route survey completed and drawing is under review in CPM (PIU).
	New 1 km 11 kV feeder for Bongaigaon Industrial Estate (New Bongaigaon).	New 11kV, 1 km separate Feeder for Bongaigaon Industrial Estate (New Bongaigaon).	1	1	1.050	No change.	Route survey completed and drawing is under review in CPM (PIU).
	New 1 km 11 kV line at Chitka – Rabhapara	New 11kV, 1 km Line at Chitka- Rabhapara.	1	1	0.800	Decrease in length by 0.2km.	Route survey completed and drawing is under review in CPM (PIU).
Barpeta Electrical Circle	New 11 km 11 kV line along with terminal equipement at 33/11 kV Bhakatpara substation.	New 11kV, 11km Line at 33/11kV Bhakatpara SS.	11	11	11.7	Increase in length by 0.7km.	Route survey completed and drawing is under review in CPM (PIU).
	New 5 km 11 kV line along with terminal equipement at 33/11 kV Barpeta Road substation to Barpeta Road Bazar.	New 11kV, 5km Line at 33/11kV Barpeta Road S/S to Barpeta Road Bazar.	5	5	5.9	Increase in length by 0.9km.	Route survey completed and drawing is under review in CPM (PIU).
	New 5 km 11 kV line from Howly substation to Howly Bazar.	New 11kV, 5km line from Howly S/S to Howly Bazar.	5	5	5	No change.	Route survey completed and drawing is under review in CPM (PIU).

C - Substation Augmentation

Electrical Circle	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Length (km) as per IEE	Length (km) as per BID	Length as per Actual Route survey (km)	Change in Project Scope	Implementation Status
Sibsagar Electrical Circle	Galeky 33/11 kV substation from 2x2.5MVA to 2x5MVA: Existing 2x2.5MVA Transformers are to be replaced with 2x5MVA Transformers	Existing 2x2.5 MVA Transformer to 2X5 MVA Transformer at 33/11kV Galeky substation in Sibsagar electrical circle.	–	–			Survey is completed. Survey report is under review in CPM (PIU)
Sibsagar Electrical Circle	Namti 33/11 kV substation from 1x2.5 + 1x1.6 MVA to 1x 2.5 MVA + 1x5 MVA: Existing 1x2.5 MVA + 1 x1.6 MVA Transformers are to be replaced with to 1x 2.5 MVA + 1x5 MVA Transformers	Existing 1x2.5 MVA + 1X1.6MVA Transformers to 1X2.5 MVA +1X5 MVA Transformers at 33/11kV Namti substation in Sibsagar electrical circle.	–	–			Survey is completed. Survey report is under review in CPM (PIU)
Dibrugarh Electrical Circle	Rajgarh 33/11 KV substation from 1X2.5 MVA + 1 X 5MVA to 2 X 5 MVA with provision for terminal equipment of Namrup - Rajgarh Line	Existing 1x2.5 MVA + 1X5 MVA Transformers to 2X5 MVA Transformer with provision of Terminal equipment for Namprup-Rajgarh Line at 33/11kV Rajgarh substation Dibrugarh electrical circle.	–	–			Survey is completed. Survey report is under review in CPM (PIU)
Tezpur Electrical Circle	Jamuguri 33/11 kV substation from 2x3.15MVA to 2x5MVA: Existing 2x3.15MVA	Existing 2x3.15 MVA Transformers to 2X5 MVA Transformers at 33/11kV Jamuguri substation in Tezpur electrical circle.	–	–			Survey is completed and is under review in Tezpur electrical circle.
Lakhimpur Electrical Circle	Chilapathar 33/11 kV substation from 1x2.5MVA to 1x5MVA: Existing 1x2.5MVA Transformer is to be replaced with 1x5MVA Transformer.	Existing 1x2.5 MVA Transformer to 2X5 MVA Transformers at 33/11kV Chilapathar substation in Lakhimpur electrical circle.	–	–			No Scope of Work. Work Completed under RGGPY XII plan
Rangia Electrical Circle	Kamalpur 33/11 kV substation from 2x2.5MVA to 2x5MVA: Existing 2x2.5MVA Transformers are to be replaced with new 2x5MVA Transformers.	Existing 2x2.5 MVA Transformers to 2X5 MVA Transformers at 33/11kV Kamalpur substation in Rangia electrical circle.	–	–			Survey is completed. Survey report is under review in CPM (PIU)

D - 11kV Arial Bunched Cables (ABC)

Electrical Circle	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Length (km) as per IEE	Length (km) as per BID	Length as per Actual Route Survey (km)	Change in Project Scope	Implementation Status
Sivsagar Electrical Circle	New 4 km Galeky to Sivbari TE Feeder feeding 3 TEs from Galekay substation	New 11kV, 5km ABC Line Galeky to Sivbari TE Feeder for feeding 3 TEs.	4	5	5	Increase in length by 1km.	Route survey is completed and is under review in concern electrical circle.
	New 10 km Maduri Tea Feeder from 33/11 kV Namti substation	New 11kV, 5km ABC Line Maduri Tea Feeder from 33/11 KV Namti Substation.	10	5	5.2	Decrease in length by 4.8km.	Route survey is completed and is under review in concern electrical circle.
	–	–	0	0	0.3	11kV line for Mathura Tea Estate	Extra ABC line under line No.4 (Line No: 4 i.e. 11kv line for Mathura tea feeder from new 33/11kV Maibela substation) Route survey is completed and is under review in concern electrical circle.
Dibrugarg Electrical Circle	–	–	0	0	10.12	11kV line for Azizbag,Kafe ucha,Tinali,G onguti,Kend droguri,Real, Assam,Diksa m,Dirai,Amul yabari Tea Estate	Extra ABC line under Line No: 1 i.e. 11kv line for 17 TE under Rajgarh substation. Route survey is completed and is under review in CPM (PIU). **(refer Component B of Package-2)**
Golaghat Electrical Circle	New 6km 11 kV lines with AB Cable in the alignment of 3 Nos. 11 kV feeders from Dayang, 2X5 MVA, 33/11 kV Sub Station	New 11kV, 6km ABC Lines comprising 3 nos. Feeders from Doloujan, 2X5 MVA, 33/11 kV Substation.	6	6	--		Survey not yet completed.
Golaghat Electrical Circle	New 6km 11 kV lines with AB Cable in the alignment of 3 Nos 11 kV feeders from Nahorbari, 2X5 MVA, 33/11 kV Sub Station.	New 11kV, 6km ABC Lines comprising 3 nos. Feeders from Pholongoni, 2X5 MVA, 33/11 kV Substation.	6	6	19.535	Increase in length by 13.5km.	Route survey is completed and is under review in CPM (PIU)
Golaghat Electrical Circle	New 4km 11 kV lines with AB Cable in the alignment of 4 Nos 11 kV feeders from Radhabari T.E., 2X5 MVA, 33/11 kV Sub Station.	New 11kV, 4km ABC Line comprising 4 nos. 11 kV feeders from Radhabari T.E., 2X5 MVA, 33/11 kV Sub Station.	4	4	7.338	Increase in length by 3.338km.	Route survey is completed and is under review in CPM (PIU)
Guwahati Electrical Circle	—	Conversion of 11kV line by ABC cable at lalungaon	–	–	0		Survey was undertaken and it has been found out

Electrical Circle	Name of sub-project as per IEE	Name of sub-project as per BID Docs.	Length (km) as per IEE	Length (km) as per BID	Length as per Actual Route Survey (km)	Change in Project Scope	Implementation Status
							that work is not feasible.
Guwahati electrical circle	—	Conversion of 11kV line by ABC cable at Jowaharnagar to patharkuchi	–	–	0		Survey was undertaken and it has been found out that work is not feasible.

F – R&M works of 33/11kV Sub-stations

A. CIVIL WORKS

Electrical Circle	Name of sub-station	Activities in IEE
Kokrajhar Electrical Circle	Basugaon 33/11 kV substation	• Repairing of Control Room Building including footpath at Basugaon 33/11 kV substation. • Raising of low site by earth filling at back site of Control Room Building at Basugaon 33/11 kV substation.
	Ambagan 33/11 kV substation	• Switchyard fencing by PCC wall (below G.L) due to raising of height at Ambagan 33/11 kV substation complex at Dhubri. • Construction of boundary wall at South side of Ambagan 33/11 kV substation, APDCL Dhubri. • Supply & Spreading of 32 mm river gravel at 33/11 kV switchyard area at Ambagan, Dhubri. • Raising of low structure foundation by brick due to earth filling inside switchyard at Ambagan 33/11 kV substation complex at Dhubri. • Construction of Ramp (side and back) of switchyard fencing at Ambagan 33/11 kV substation complex at Dhubri. • Construction of steel gates (front & back) of switchyard fencing at Ambagan 33/11 kV substation complex at Dhubri. • Raising of low side by earth filling inside switchyard area at Ambagan. • Construction of outlet new drain in front and south side of CB at Ambagan 33/11 kV substation complex, APDCL Dhubri. • Painting of switchyard fencing at Dhubri
	Gauripur 33/11 kV substation.	• Construction of boundary wall (damage portion) including earth filling at West side of Control Room Building at Gauripur 33/11 kV substation.
	Agomani 33/11 kV substation	• Reconstruction of the damage boundary wall of 33/11 kV substation at Agomani.
	Bilasipara 33/11 kV substation	• Reconstruction of damage boundary wall at 33/11 kV substation at Bilasipara
Bongaigaon Electrical Circle	Bhalukdubi 33/11 kV substation	• Providing internal and external water supply, Deep tube well at Bhalukdubi 33/11 kV substation. • Civil works of Bhalukdubi 33/11 kV substation including internal electrification.
	Mornoi 33/11 kV substation	• Providing internal and external water supply, Deep tube well at Mornoi 33/11 kV substation.
	Balijana 33/11 kV substation	• Repairing of Control Room Building including electrification work at Balijana 33/11 kV substation.
Guwahati Electrical Circle	Zoo Road 33/11 kV substation	• Construction of Internal Boundary Wall at Zoo Road 33/11 kV substation. • Construction of PCC base on stone soiling at Zoo Road 33/11 kV substation. • Construction of Boundary Wall in the western side of Zoo Road 33/11 kV substation.
	Sonapur 33/11 kV substation.	• Renovation of Control Room Building at Sonapur 33/11 kV substation.
	Garbhanga 33/11 kV substation	• Providing boundary wall and gate at Garbhanga 33/11 kV substation
	Paltan Bazar 33/11 kV	• Construction of approach road with repairing & renovation of Control Room Building at Paltan Bazar 33/11 kV substation • Construction of boundary wall including repairing & renovation of old damaged wall around Paltan Bazar • 33/11 kV substation Switchyard.

Electrical Circle	Name of sub-station	Activities in IEE
Tezpur Electrical Circle	Bargang 33/11 kV substation.	• Construction of well foundation with hum pipe for 33 kV Bargang-Monabari feeder river crossing. • Construction of boundary wall at Bargang 33/11 kV substation.
	Pavoi 33/11 kV substation	• Construction of boundary wall at Pavoi 33/11 kV substation.
	Chariali 33/11 kV substation	• Construction of boundary wall at Chariali 33/11 kV substation.
Lakhimpur Electrical Circle	Narayanpur 33/11 kV substation	• Water supply and construction of water filter for Narayanpur 33/11 kV substation
	Jonai 33/11 kV substation.	• Water supply and construction of water filter for Jonai 33/11 kV substation.
Cachar Electrical Circle	MaliniBeel 33/11 kV substation.	• Construction of (Remaining portion) of retaining wall along with boundary fencing by the West, South & North side of MaliniBeel 33/11 kV substation. • Earth filling (Remaining portion) within MaliniBeel 33/11 kV substation. • Construction of approach road and cement concreting over the open space of switchyard for easy movement of machinary at Malinibeel 33/11 kV substation. • Construction of heavy duty iron gate of MaliniBeel 33/11 kV substation
	Srikona 33/11 kV substation.	• Construction of boundary wall around the Srikona 33/11 kV substation.
	Meharpur 33/11 kV substation	• Renovation of boundary wall of divisional store as well as boundary fencing of switchyard of Meharpur 33/11 kV substation.
	Udharbond 33/11 kV substation.	• Repairing of CC road and WBM road of Udharbond 33/11 kV substation. • Repairing of Control Room Building of Udharbond 33/11 kV substation.
	Kalain 33/11 kV substation	• Construction of approach road from PWD road to switchyard of Kalain 33/11 kV substation.
	Katigorah 33/11 kV substation	• Construction of approach road of Katigorah 33/11 kV substation • Switchyard gravelling of Katigorah 33/11 kV substation. • Earth work in switchyard of Katigorah 33/11 kV substation. • Construction of boundary wall of Katigorah 33/11 kV substation. • Construction of approach road to Control Room Building at Katigarha 33/11 kV substation. • Earth filling at Katigarh 33/11 kV substation area.
Dibrugarh Electrical Circle:	Bordubi 33/11 kV substation.	• Construction of approach road to the newly upgraded Bordubi 33/11 kV substation. • Construction of boundary wall for upgraded Bordubi 33/11 kV substation. • Renovation/repairing of old Control Room Building at Bordubi 33/11 kV substation.
	Tengakhat 33/11 kV substation	• Earth filling for upgrade Tengakhat 33/11 kV substation under Dibrugarh Electrical • Circle.
Tinsukia Electrical Circle	Makum 33/11 kV substation	• Repairing of Control Room Building at Makum 33/11 kV substation. • Construction of boundary wall for upgraded Makum 33/11 kV substation. • Construction of approach road to the newly upgraded Makum 33/11 kV substation.
	Chabua 33/11 kV substation.	• Repairing of Control Room Building at Chabua 33/11 kV substation. • Construction of approach road to the newly upgraded Chabua 33/11 kV substation.
	Dinjan 33/11 kV substation.	• Construction of boundary wall for upgraded Dinjan 33/11 kV substation.
	Magherita 33/11 kV substation.	• Construction of boundary wall for upgraded Magherita 33/11 kV substation.
	Doomdooma 33/11 kV substation.	• Construction of boundary wall for upgraded Doomdooma 33/11 kV substation.

Electrical Circle	Name of sub-station	Activities in IEE
	Tinsukia 33/11 kV substation	• Construction of approach road to the newly upgraded Tinsukia 33/11 kV substation.
	Digboi 33/11 kV substation.	• Construction of approach road to the newly upgraded Digboi 33/11 kV substation.
Jorhat Electrical Circle: Civil Works	Bokakhat 33/11 kV substation	• Repairing of Control Room Building at Bokakhat 33/11 kV substation
	Kamarbandha 33/11 kV substation	• Construction of boundary wall at Kamarbandha 33/11 kV substation. • Construction of security fencing at Kamarbandha 33/11 kV substation.
Sivasagar Electrical Circle	Dimow 33/11 kV substation	• Construction of boundary wall at Dimow 33/11 kV substation.
	Geleki 33/11 kV substation	• Construction of boundary wall at Geleki 33/11 kV substation • Construction of approach road to Geleki 33/11 kV substation
	Sonari 33/11 kV substation	• Construction of boundary wall at Sonari 33/11 kV substation • Construction of approach road to Sonari 33/11 kV substation.
	Phukan Nagar 33/11 kV substation	• Construction of boundary wall at Phukan Nagar 33/11 kV substation. Construction of approach road to Phukan Nagar 33/11 kV substation.

Findings: The sub-projects of civil works under R&M components have been dropped in final DPR due to:

High project cost, difficulty in generating BOQrates fordifferent types of small items, and decision to carry out these activities under separate state funding. These activities listed in IEE are indicted in the draft DPR, during which the IEE was prepared. The Final DPR has excluded the items and hence, above listed civil activities have been dropped from ADB's financing.

B. Electrical Works

Electrical Circle	Name of Substation	Activities as per IEE	Activities as per Bid document	Remarks
Mangaldoi Electrical Circle	Kharupetia 33/11 kV substation	9-unit 11 kV indoor VCB at Kharupetia 33/11 kV substation	Erection, testing & commissioning of 9 Unit 11kV indoor VCB	Survey Completed. Drawing is under review for approval in Mangaldoi electrical circle.
Mangaldoi Electrical Circle	Rowta - Kasubill line and Udalguri - Kasubil Line	Construction of Switching facility for interconnection of Rowta - Kasubill line and Udalguri - Kasubil Line	Switching facility for interconnection of 33kV Rowta - Kasubill line and 33kV Udalguri - Kasubil Line	Survey Completed. Drawing is under review for approval in Mangaldoi electrical circle
Nagaon Electrical Circle	Kathiatoli 33/11 kV substation	R&M of Kathiatoli 33/11 kV substation under Hojai Electrical Division.	33 kV VCB, 11kV 9-unit panel, 150 AH,110 Volts Battery Bank complete,	Survey Completed. Drawing is under review in CPM(PIU) for approval.
Nagaon Electrical Circle	Kampur 33/11 kV substation	R&M of Kampur 33/11 kV substation under Hojai Electrical Division.	33 kV VCB, 33 kV Transformer Panel, 33kV Feeder Panel and 11kV 9-unit panel.	Survey Completed. Drawing is under review in CPM(PIU) for approval.
Nagaon Electrical Circle	Burapahar 33/11 kV substation	R&M of Burapahar 33/11 kV substation under Nagaon Electrical Division.	11kV 9-unit panel, 150 AH, 110 Volts Battery Bank complete.	Survey Completed. Survey report is under review in CPM (PIU) for approval.
Morigaon Electrical Circle	Moloibari 33/11 kV substation	R&M of Moloibari 33/11 kV substation under Morigaon Electrical Division.	33kV VCB, 33kV Transformer Panel, 33kV feeder panel, 11kV 9-unit panel,11kV GOAB,11kV LA,150 AH,110 Volts Battery Bank complete	Survey Completed. Survey report is under review in CPM (PIU) for approval.
Tinsukia Electrical Circle	Parbotria 33/11 kV substation.	33 kV Outdoor VCB for Transformer	33kV Outdoor VCB and 33kV Transformer panel.	Survey completed and approval is under review in CPM(PIU)

Electrical Circle	Name of Substation	Activities as per IEE	Activities as per Bid document	Remarks
Tinsukia Electrical Circle	Borguri 33/11 kV substation.	33 kV Outdoor VCB for Transformer	33kV Outdoor VCB and 33kV Transformer panel	This work is not required.
Tinsukia Electrical Circle	Chabua 33/11 kV substation.	33 kV Outdoor VCB for Transformer Battery Charger with Battery Bank	33kV Outdoor VCB, Transformer panel, 150 AH, 110 V battery bank & battery charger complete, 11kV indoor panel (9 units).	Work is under progress.
Tinsukia Electrical Circle	Dinjan 33/11 kV substation.	33 kV Outdoor VCB for Transformer	33kV Outdoor VCB and Transformer panel.	Survey completed and approval is under review in CPM(PIU)
Tinsukia Electrical Circle	Borsola 33/11 kV substation	Battery Charger with Battery Bank	———	This subproject was not mentioned in Bid document and no work is being undertaken in this sub-project.
Tinsukia Electrical Circle	Doomdooma 33/11 kV substation	----------	Battery charger with battery bank complete.	Survey Completed. No civil work related to electrical works is required.
Sivasagar Electrical Circle	Namti Chari Ali 33/11 kV substation	Replacement of Transformer Breaker at Namti Chari Ali 33/11 kV substation.	Erection, testing & commissioning of 33 kV VCB for transformer including laying and termination of power and control Cables as required with associated structure and foundation Erection, testing & commissioning of 33kV Transformer panel	Survey completed. No civil work related to electrical works is required.
Sivasagar Electrical Circle	Phukon Nagar 33/11 kV substation	Replacement of Gaurisagar 33kV feeder Breaker under Phukon Nagar 33/11 kV substation.	33kV Outdoor VCB and 33kV Feeder panel at Phukan Nagar substation	As per the survey there was no scope of work at Phukan Nagar 33/11kV substation so the same work is undertaken at Gaurisagar 33/11kV substation and same is surveyed. SLD approved
Sivasagar Electrical Circle	Geleky 33/11 kV substation	For commissioning of 33 kV Transformer Bay under Geleky 33/11 kV substation.	For 33kV Transformer bay.	
Sivasagar Electrical Circle	Salkathoni 33/11 kV substation.	For replacement of 33 kV PT under Salkathoni 33/11 kV substation.	33kV PT	Survey completed. Only 3 no of PT are required. Survey report is under review.
Sivasagar Electrical Circle	Nazira 33/11 kV substation.	For commissioning of Transformer Bay under Nazira 33/11 kV substation.	For 33kV Transformer bay.	Survey is completed and is under review in CPM (PIU).
Dibrugarh Electrical Circle	Hazelbank 33/11 kV substation	Equipment required at 33/11 kV Hazelbank substation.	Equipments required at Hazelbank SS for taking out 11 kV Dedicated Tea Feeder.	Civil Works related to electrical works are completed.
Dibrugarh Electrical Circle	Beheating 33/11 kV substation	Equipment required at 33/11 kV Beheating substation.	Equipments required at Behiating SS for taking out 11 kV Dedicated Tea Feeder	Survey completed and report is under review in CPM (PIU).
Cachar electrical circle	Pailapool SS:	----------	Replacement of XLPE cable of 33/11kV S/S at Pailapool, 260 m	Survey Completed. No civil work related to electrical work is required.