

**Bidding Document
For
Procurement of**

Design, Supply, Installation, Testing & Commissioning of 400/230kV, 400/520MVA
Transformer with associated switchgear in existing Aminbazar 400/230/132kV grid
substation

[OCB No.: PGCB/400kVTx/Aminbazar SS]

Addendum 03

1. Volume 3 of 3, Schedule B: Schedules of Rates and Prices

Price Schedule is revised and attached with Addendum as **Attachment-1.**



Attachment-1

schedule_1 : supplied from abroad

Item	Description	Country of origin	Unit	Quantity	Foreign Currency Portion [-----]		REMARKS
					unit price CIP	Total price CIP	
1	2	3	4	5	6	(7)=(5)X(6)	9
A	420 kV switchgear, equipment connection and steel structures						
	The set of complete equipment for switchgear 420 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:						
A1	Surge arrester 420 kV, single phase, heavy duty station class, gapless, metal oxide type, Ur = 336 kV, Uc = 268 kV, 10 kA nominal discharge current, 50 Hz		nos	3			
A2	The lot of fittings including all necessary conductors, clamps and connectors required for completing 420 kV CVT, SA		lot	1			
A3	Equipment supports steel structure including nut-bolts required for completing 420 kV SA on existing foundation		lot	1			
B	245 kV switchgear, equipment connection and steel structures						
	The set of complete equipment for switchgear 245 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:						
B1	Surge arrester 245 kV, single phase, heavy duty station class, gapless, metal oxide type, Ur = 192 kV, Uc = 153 kV, 10 kA nominal discharge current, 50 Hz		nos	3			
B2	Post insulator 245 kV, single phase, 10 kN, 50 kA / 1 sec, 50 Hz, 1,050 / 460 kV BIL		nos	3			
B3	The lot of conductors 245 kV, for double busbars system and for connection of the 245 kV switchgear, 2,000 A, 50 kA / 1 sec, 50 Hz 1,050 / 460 kV BIL, three phase		lot	1			
B4	The lot of fittings including all necessary conductors, clamps and connectors required for completing 245 kV switchgear.		lot	1			
B5	Equipment supports steel structure including nut-bolts required for completing 245 kV switchgear on existing foundation.		lot	1			
C	36 kV Switchgear, equipment connection and steel structures						
	The set of complete equipment for switchgear 36 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:						

schedule_1 : supplied from abroad

Item	Description	Country of origin	Unit	Quantity	Foreign Currency Portion [----]		REMARKS
					unit price CIP	Total price CIP	
1	2	3	4	5	6	(7)=(5)X(6)	9
C1	Current transformer 36 kV, single-phase, 3-core, single ratio, 800/1A, 25 kA / 1 sec, 50 Hz, 170 / 70 kV BIL, post type current transformer.		nos	3			
C2	Surge arrester 36 kV, single phase, gapless, metal oxide type, Uc = 30 kV, Ur = 24 kV, 10 kA nominal discharge current, 50 Hz, 170 / 70 kV BIL,		nos	3			
C3	The lot of conductors 36 kV, for connection of the 36 kV switchgear, 630 A, 25 kA / 1 sec, 50 Hz, 170 / 70 kV BIL, three phase.		lot	1			
C4	The lot of fittings including all necessary clamps and connectors required for completing 36 kV switchgear.		lot	1			
C5	Modification of existing equipment support structure required for completing 36 kV switchgear.		lot	1			
D	Transformers						
	The set of complete equipment 400/230/33 kV for transformation of energy shall be designed, supplied, delivered, installed, tested and commissioned, necessary modification of the existing transformer foundation (if required) under this contract, comprise the following:						
D1	The Auto-transformer 400/235/33 kV, 420/520 MVA, YNa0d1, ONAN/ONAF, with tertiary winding, three phase, oil immersed, hermetically closed, with on-load tap changer; with single phase, 3-core current transformers in all bushings. Characteristics of CTs will be AS per attached GTP, GA,		set	1			
D2	existing Nitrogen Injection Fire Protection System (NIFPS) shall be adapted for the new 400/235/33 kV autotransformer units AS per attached transformer GA and NIFPS drawing		lot	1			
E	Earthing/Auxiliary Transformers						
	The set of complete equipment 33/0.4 kV for transformation of energy for auxiliary power supply shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:						
E1	The auxiliary power transformer 33/0.4 kV, 350 kVA, ZNyn11, ONAN, oil immersed, three phase, with off-load tap changer; with single phase, 2-core current transformers in all bushings. MCCB shall be available for 0.415kv side adjacent to the Earthing Tr. Characteristics of CTs will be defined as per attached GTP and GA		set	1			

schedule_1 : supplied from abroad

Item	Description	Country of origin	Unit	Quantity	Foreign Currency Portion [----]		REMARKS
					unit price CIP	Total price CIP	
1	2	3	4	5	6	(7)=(5)X(6)	9
F	Control, Protection, Substation Automation and Metering						
	The lot of complete equipment for control, protection, alarm, SAS and me-tering panels for the 400 kV & 230kV & 33 kV system as well as LV AC and LV DC system shall be modified, tested and commissioned under this contract for successful commissioning of the bay. A control panel shall accommodate complete switchgear and necessary devices . The equipment to be supplied, installed and commissioned is shown on Bid Drawings comprising the following.						
F1	Existing Control, protection and SAS for ATR-1 , shall be re-connected and completing the testing ,commissioning		set	1			
F2	existing Control, protection and SAS for one (1) set of 33/0,4 kV Auxiliary Transformer circuits shall be reconnected, tesing and commissioning		set	1			
F3	existing Control, protection and SAS for complete LV part of the Substation, AC & DC, reconnect, testing ,commissioning		lot	1			
F4	exisitng Substation Automation System for ATR-1 shall be complete with wiring ,testing ,commissioning		lot	1			
F5	existing 400 kV busbars, in one and half breaker type busbar system, shall be tested & commisioning for ATR_1		Lot	1			
F6	existing Control, protection and SAS for two 230 kV busbars shall be complete with wiring ,testing and commissioning		lot	1			
F7	eixsting tariff metering panel reconnection ,testing and commissioning For each feeder, minimum two (2) meters (main-1 & main-2) are to be provided.		lot	1			
F8	existing Digital Fault and Disturbance Recorder (DFDR) system shall be complete with wiring , testing and commissioning		lot	1			
F9	existing telecommunication system testing and commissioning for ATR_1		lot	1			

schedule_1 : supplied from abroad

Item	Description	Country of origin	Unit	Quantity	Foreign Currency Portion [-----]		REMARKS
					unit price CIP	Total price CIP	
1	2	3	4	5	6	(7)=(5)X(6)	9
I	EXISTING Fire alarm & fire fighting system shall be complete for ATR_1 with wiring,testing,commissioning		lot	1			
J	Earthing and Lightning Protection						
J1	existing earthing and Lightning Protection for ATR_1 shall be re-connncted and tested		lot	1			
K	power Cable 36kV						
K1	The lot of complete equipment shall be designed, supplied, delivered, in-stalled, tested and commissioned of 36 kV, 630A, 25kA / 1 sec, 50Hz, 170/70 kV BIL, single phase XLPE cable. Approximate lengths are 150 meters. (Payment will be at actual quantity basis if quantity increases or decreases during execution)		m	450			
K2	The lot of complete equipment shall be designed, supplied, delivered, in-stalled, tested and commissioned of 36 kV, 630A, 25kA / 1 sec, 50Hz, 170/70 kV BIL, cable end terminal end for single phase XLPE cable		lot	1			
L	Mandatory Spare Parts						
i	Busbar protection bay unit SEL 401, Detailed specification in annexure _A		No.	2			
ii	Busbar protection bay unit P743, Detailed specification in annexure _A		No.	2			
iii	Busbar protection central unit ,REB 500 , Detailed specification in annexure _A1		No.	1			
iv	Busbar protection central unit ,REB 500 , Detailed specification in annexure _A2		No.	1			
iv	Bay control unit SEL 451 , Detailed specification in annexure _A		No.	2			

schedule_2 : supplied from Employer's country

Item	Description	Country of origin	Unit	Quantity	local Currency Portion [BDT]		REMARKS
					unit price EXW	Total price EXW (7)=(5)X(6)	
1	2	3	4	5	6	(7)=(5)X(6)	9
A	420 kV switchgear, equipment connection and steel structures						
	The set of complete equipment for switchgear 420 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:						
A1	Surge arrester 420 kV, single phase, heavy duty station class, gapless, metal oxide type, Ur = 336 kV, Uc = 268 kV, 10 kA nominal discharge current, 50 Hz		nos	3			
A2	The lot of fittings including all necessary conductors, clamps and connectors required for completing 420 kV CVT, SA		lot	1			
A3	Equipment supports steel structure including nut-bolts required for completing 420 kV SA on existing foundation		lot	1			
B	245 kV switchgear, equipment connection and steel structures						
	The set of complete equipment for switchgear 245 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:						
B1	Surge arrester 245 kV, single phase, heavy duty station class, gapless, metal oxide type, Ur = 192 kV, Uc = 153 kV, 10 kA nominal discharge current, 50 Hz		nos	3			
B2	Post insulator 245 kV, single phase, 10 kN, 50 kA / 1 sec, 50 Hz, 1,050 / 460 kV BIL		nos	3			
B3	The lot of conductors 245 kV, for double busbars system and for connection of the 245 kV switchgear, 2,000 A, 50 kA / 1 sec, 50 Hz 1,050 / 460 kV BIL, three phase		lot	1			
B4	The lot of fittings including all necessary conductors, clamps and connectors required for completing 245 kV switchgear.		lot	1			
B5	Equipment supports steel structure including nut-bolts required for completing 245 kV switchgear on existing foundation.		lot	1			
C	36 kV Switchgear, equipment connection and steel structures						
	The set of complete equipment for switchgear 36 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:						

schedule_2 : supplied from Employer's country

Item	Description	Country of origin	Unit	Quantity	local Currency Portion [BDT]		REMARKS
					unit price EXW	Total price EXW (7)=(5)X(6)	
1	2	3	4	5	6	(7)=(5)X(6)	9
C1	Current transformer 36 kV, single-phase, 3-core, single ratio, 800/1A, 25 kA / 1 sec, 50 Hz, 170 / 70 kV BIL, post type current transformer.		nos	3			
C2	Surge arrester 36 kV, single phase, gapless, metal oxide type, Uc = 30 kV, Ur = 24 kV, 10 kA nominal discharge current, 50 Hz, 170 / 70 kV BIL,		nos	3			
C3	The lot of conductors 36 kV, for connection of the 36 kV switchgear, 630 A, 25 kA / 1 sec, 50 Hz, 170 / 70 kV BIL, three phase.		lot	1			
C4	The lot of fittings including all necessary clamps and connectors required for completing 36 kV switchgear.		lot	1			
C5	Modification of existing equipment support structure required for completing 36 kV switchgear.		lot	1			
D	Transformers						
	The set of complete equipment 400/230/33 kV for transformation of energy shall be designed, supplied, delivered, installed, tested and commissioned, necessary modification of the existing transformer foundation (if required) under this contract, comprise the following:						
D1	The Auto-transformer 400/235/33 kV, 420/520 MVA, YNa0d1, ONAN/ONAF, with tertiary winding, three phase, oil immersed, hermetically closed, with on-load tap changer; with single phase, 3-core current transformers in all bushings. Characteristics of CTs will be AS per attached GTP, GA,		set	1			
D2	existing Nitrogen Injection Fire Protection System (NIFPS) shall be adapted for the new 400/235/33 kV autotransformer units AS per attached transformer GA and NIFPS drawing		lot	1			
E	Earthing/Auxiliary Transformers						
	The set of complete equipment 33/0.4 kV for transformation of energy for auxiliary power supply shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:						
E1	The auxiliary power transformer 33/0.4 kV, 350 kVA, ZNyn11, ONAN, oil immersed, three phase, with off-load tap changer; with single phase, 2-core current transformers in all bushings. MCCB shall be available for 0.415kv side adjacent to the Earthing Tr. Characteristics of CTs will be defined as per attached GTP and GA		set	1			

schedule_2 : supplied from Employer's country

Item	Description	Country of origin	Unit	Quantity	local Currency Portion [BDT]		REMARKS
					unit price EXW	Total price EXW (7)=(5)X(6)	
1	2	3	4	5	6	(7)=(5)X(6)	9
F	Control, Protection, Substation Automation and Metering						
	The lot of complete equipment for control, protection, alarm, SAS and me-tering panels for the 400 kV & 230kV & 33 kV system as well as LV AC and LV DC system shall be modified, tested and commissioned under this contract for successful commissioning of the bay. A control panel shall accommodate complete switchgear and necessary devices . The equipment to be supplied, installed and commissioned is shown on Bid Drawings comprising the following.						
F1	Existing Control, protection and SAS for ATR-1 , shall be re-connected and completing the testing ,commissioning		set	1			
F2	existing Control, protection and SAS for one (1) set of 33/0,4 kV Auxiliary Transformer circuits shall be reconnected, tesing and commissioning		set	1			
F3	existing Control, protection and SAS for complete LV part of the Substation, AC & DC, reconnect, tesing ,commissioning		lot	1			
F4	existng Substation Automation System for ATR-1 shall be complete with wiring ,testing ,commissioning		lot	1			
F5	existing 400 kV busbars, in one and half breaker type busbar system, shall be tested & commisioning for ATR_1		Lot	1			
F6	existing Control, protection and SAS for two 230 kV busbars shall be complete with wiring ,testing and commissioning		lot	1			
F7	eixsting tariff metering panel reconnection ,testing and commissioning For each feeder, minimum two (2) meters (main-1 & main-2) are to be provided.		lot	1			
F8	existing Digital Fault and Disturbance Recorder (DFDR) system shall be complete with wiring , testing and commissioning		lot	1			
F9	existing telecommunication system testing and commissioning for ATR_1		lot	1			

schedule_2 : supplied from Employer's country

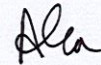
Item	Description	Country of origin	Unit	Quantity	local Currency Portion [BDT]		REMARKS
					unit price EXW	Total price EXW	
1	2	3	4	5	6	(7)=(5)X(6)	9
I	EXISTING Fire alarm & fire fighting system shall be complete for ATR_1 with wiring,testing,commissioning		lot	1			
J	Earthing and Lightning Protection						
J1	existing earthing and Lightning Protection for ATR_1 shall be re-connccted and tested		lot	1			
K	power Cable 36kV						
K1	The lot of complete equipment shall be designed, supplied, delivered, in-stalled, tested and commissioned of 36 kV, 630A, 25kA / 1 sec, 50Hz, 170/70 kV BIL, single phase XLPE cable. Approximate lengths are 150 meters. (Payment will be at actual quantity basis if quantity increases or decreases during execution)		m	450			
K2	The lot of complete equipment shall be designed, supplied, delivered, in-stalled, tested and commissioned of 36 kV, 630A, 25kA / 1 sec, 50Hz, 170/70 kV BIL, cable end terminal end for single phase XLPE cable		lot	1			
L	Mandatory Spare Parts						
i	Busbar protection bay unit SEL 401, Detailed specification in annexure _A		No.	2			
ii	Busbar protection bay unit P743, Detailed specification in annexure _A		No.	2			
iii	Busbar protection central unit ,REB 500 , Detailed specification in annexure _A1		No.	1			
iv	Busbar protection central unit ,REB 500 , Detailed specification in annexure _A2		No.	1			
iv	Bay control unit SEL 451 , Detailed specification in annexure _A		No.	2			

Schedule No. 3. Design Services

Item	Description	Unit	Quantity	Unit Price ¹		Total Price ¹	
				Local Currency Portion [BDT]	Foreign Currency Portion [-----]	Local Currency Portion [BDT]	Foreign Currency Portion [-----]
1	2	3	4	5	6	7 = 4 x 5	8 = 4 x 6
1	420 kV ATR, switchgear, equipment connection and steel structures	Lump sum	1				
2	230 kV switchgear, equipment connection and steel structures	Lump sum	1				

1.






schedule_4 : Installation and other services

Item	Description	Country of origin	Unit	Quantity	Foreign Currency Portion [-----]		local Currency Portion [BDT]	
					unit price Foreign portion	total price Foreign portion	unit price local portion	Total price local portion
1	2	3	4	5	6	(7)=(5)X(6)	8	(9)=(5)X(8)
A	420 kV switchgear, equipment connection and steel structures							
	The set of complete equipment for switchgear 420 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
A1	Surge arrester 420 kV, single phase, heavy duty station class, gapless, metal oxide type, Ur = 336 kV, Uc = 268 kV, 10 kA nominal discharge current, 50 Hz		nos	3				
A2	The lot of fittings including all necessary conductors, clamps and connectors required for completing 420 kV CVT, SA		lot	1				
A3	Equipment supports steel structure including nut-bolts required for completing 420 kV SA on existing foundation		lot	1				
B	245 kV switchgear, equipment connection and steel structures							
	The set of complete equipment for switchgear 245 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
B1	Surge arrester 245 kV, single phase, heavy duty station class, gapless, metal oxide type, Ur = 192 kV, Uc = 153 kV, 10 kA nominal discharge current, 50 Hz		nos	3				
B2	Post insulator 245 kV, single phase, 10 kN, 50 kA / 1 sec, 50 Hz, 1,050 / 460 kV BIL		nos	3				
B3	The lot of conductors 245 kV, for double busbars system and for connection of the 245 kV switchgear, 2,000 A, 50 kA / 1 sec, 50 Hz 1,050 / 460 kV BIL, three phase		lot	1				
B4	The lot of fittings including all necessary conductors, clamps and connectors required for completing 245 kV switchgear.		lot	1				
B5	Equipment supports steel structure including nut-bolts required for completing 245 kV switchgear on existing foundation.		lot	1				
C	36 kV Switchgear, equipment connection and steel structures							
	The set of complete equipment for switchgear 36 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							

schedule_4 : Installation and other services

Item	Description	Country of origin	Unit	Quantity	Foreign Currency Portion [-----]		local Currency Portion [BDT]	
					unit price Foreign portion	total price Foreign portion	unit price local portion	Total price local portion
1	2	3	4	5	6	(7)=(5)X(6)	8	(9)=(5)X(8)
C1	Current transformer 36 kV, single-phase, 3-core, single ratio, 800/1A, 25 kA / 1 sec, 50 Hz, 170 / 70 kV BIL, post type current transformer.		nos	3				
C2	Surge arrester 36 kV, single phase, gapless, metal oxide type, Uc = 30 kV, Ur = 24 kV, 10 kA nominal discharge current, 50 Hz, 170 / 70 kV BIL,		nos	3				
C3	The lot of conductors 36 kV, for connection of the 36 kV switchgear, 630 A, 25 kA / 1 sec, 50 Hz, 170 / 70 kV BIL, three phase.		lot	1				
C4	The lot of fittings including all necessary clamps and connectors required for completing 36 kV switchgear.		lot	1				
C5	Modification of existing equipment support structure required for completing 36 kV switchgear.		lot	1				
D	Transformers							
	The set of complete equipment 400/230/33 kV for transformation of energy shall be designed, supplied, delivered, installed, tested and commissioned, necessary modification of the existing transformer foundation (if required) under this contract, comprise the following:							
D1	The Auto-transformer 400/235/33 kV, 420/520 MVA, YNa0d1, ONAN/ONAF, with tertiary winding, three phase, oil immersed, hermetically closed, with on-load tap changer; with single phase, 3-core current transformers in all bushings. Characteristics of CTs will be AS per attached GTP,GA,		set	1				
D2	existing Nitrogen Injection Fire Protection System (NIFPS) shall be adapted for the new 400/235/33 kV autotransformer units AS per attached transformer GA and NIFPS drawing		lot	1				
E	Earthing/Auxiliary Transformers							
	The set of complete equipment 33/0.4 kV for transformation of energy for auxiliary power supply shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
E1	The auxiliary power transformer 33/0.4 kV, 350 kVA, ZNyn11, ONAN, oil immersed, three phase, with off-load tap changer; with single phase, 2-core current transformers in all bushings. MCCB shall be available for 0.415kv side adjacent to the Earthing Tr. Characteristics of CTs will be defined as per attached GTP and GA		set	1				

schedule_4 : Installation and other services

Item	Description	Country of origin	Unit	Quantity	Foreign Currency Portion [-----]		local Currency Portion [BDT]	
					unit price Foreign portion	total price Foreign portion	unit price local portion	Total price local portion
1	2	3	4	5	6	(7)=(5)X(6)	8	(9)=(5)X(8)
F	Control, Protection, Substation Automation and Metering							
	The lot of complete equipment for control, protection, alarm, SAS and me-tering panels for the 400 kV & 230kV & 33 kV system as well as LV AC and LV DC system shall be modified, tested and commissioned under this contract for successful commissioning of the bay. A control panel shall accommodate complete switchgear and necessary devices . The equipment to be supplied, installed and commissioned is shown on Bid Drawings comprising the following.							
F1	Existing Control, protection and SAS for ATR-1 , shall be re-connected and completing the testing ,commissioning		set	1				
F2	existing Control, protection and SAS for one (1) set of 33/0,4 kV Auxiliary Transformer circuits shall be reconnected, tesing and commissioning		set	1				
F3	existing Control, protection and SAS for complete LV part of the Substation, AC & DC, reconnect, tesing ,commissioning		lot	1				
F4	existng Substation Automation System for ATR-1 shall be complete with wiring ,testing ,commissioning		lot	1				
F5	existing 400 kV busbars, in one and half breaker type busbar system, shall be tested & commissioning for ATR_1		Lot	1				
F6	existing Control, protection and SAS for two 230 kV busbars shall be complete with wiring ,testing and commissioning		lot	1				
F7	eixsting tariff metering panel reconnection ,testing and commissioning For each feeder, minimum two (2) meters (main-1 & main-2) are to be provided.		lot	1				
F8	existing Digital Fault and Disturbance Recorder (DFDR) system shall be complete with wiring , testing and commissioning		lot	1				
F9	existing telecommunication system testing and commissioning for ATR_1		lot	1				
I	EXISTING Fire alarm & fire fighting system shall be complete for ATR_1 with wiring,testing,commissioning		lot	1				

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schedule_4 : Installation and other services

Item	Description	Country of origin	Unit	Quantity	Foreign Currency Portion [-----]		local Currency Portion [BDT]	
					unit price Foreign portion	total price Foreign portion	unit price local portion	Total price local portion
1	2	3	4	5	6	(7)=(5)X(6)	8	(9)=(5)X(8)
J	Earthing and Lightning Protection							
J1	existing earthing and Lightning Protection for ATR_1 shall be re-connected and tested		lot	1				
K	power Cable 36kV							
K1	The lot of complete equipment shall be designed, supplied, delivered, in-stalled, tested and commissioned of 36 kV, 630A, 25kA / 1 sec, 50Hz, 170/70 kV BIL, single phase XLPE cable. Approximate lengths are 150 meters. (Payment will be at actual quantity basis if quantity increases or decreases during execution)		m	450				
K2	The lot of complete equipment shall be designed, supplied, delivered, in-stalled, tested and commissioned of 36 kV, 630A, 25kA / 1 sec, 50Hz, 170/70 kV BIL, cable end terminal end for single phase XLPE cable		lot	1				
L	Mandatory Spare Parts							
i	Busbar protection bay unit SEL 401, Detailed specification in annexure _A		No.	2				
ii	Busbar protection bay unit P743, Detailed specification in annexure _A		No.	2				
iii	Busbar protection central unit ,REB 500 , Detailed specification in annexure _A1		No.	1				
iv	Busbar protection central unit ,REB 500 , Detailed specification in annexure _A2		No.	1				
iv	Bay control unit SEL 451 , Detailed specification in annexure _A		No.	2				



