

Loan No. and Title: 4520-NEP: SASEC - Electricity Transmission and Distribution Strengthening Project

OCB No. and Title: NEA/PMD/ETDSP/LAMSS-081/82-01, Procurement of Plant for Design, Supply, Installation, Testing and Commissioning of 400/220/132/33/11kV GIS Substation at Lamahi, Dang

Addendum – II

S. No.	Reference Cl. No. of the Bidding Document	Existing Provision					Amended Provision																																																																										
1	Vol III, Schedule 4(d), item V, 420kV, 63 and 125 MVAR Switchable Line Reactor,	<table><tr><th>Item</th><th>Description</th><th>Testing Location</th><th>Unit</th><th>Quantity</th></tr><tr><td>V</td><td>420kV, 63 and 125 MVAR Switchable Line Reactor</td><td></td><td></td><td></td></tr><tr><td>a)</td><td>Measurement of zero sequence reactance</td><td></td><td>LS</td><td>1</td></tr><tr><td>b)</td><td>Dynamic Short Circuit test</td><td></td><td>LS</td><td>1</td></tr><tr><td>c)</td><td>Measurement of Accoustic Noise Level</td><td></td><td>LS</td><td>1</td></tr><tr><td>d)</td><td>Measurement of Harmonic Level at No-load current</td><td></td><td>LS</td><td>1</td></tr><tr><td>e)</td><td>Knee point voltage measurement of reactor</td><td></td><td>LS</td><td>1</td></tr></table>					Item	Description	Testing Location	Unit	Quantity	V	420kV, 63 and 125 MVAR Switchable Line Reactor				a)	Measurement of zero sequence reactance		LS	1	b)	Dynamic Short Circuit test		LS	1	c)	Measurement of Accoustic Noise Level		LS	1	d)	Measurement of Harmonic Level at No-load current		LS	1	e)	Knee point voltage measurement of reactor		LS	1	<table><tr><th>Item</th><th>Description</th><th>Testing Location</th><th>Unit</th><th>Quantity</th></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>V</td><td>420kV, 63 and 125 MVAR Switchable Line Reactor</td><td></td><td></td><td></td></tr><tr><td>a)</td><td>Measurement of zero sequence reactance</td><td></td><td>LS</td><td>1</td></tr><tr><td>b)</td><td>Measurement of Accoustic Noise Level</td><td></td><td>LS</td><td>1</td></tr><tr><td>c)</td><td>Measurement of Harmonic Level at No-load current</td><td></td><td>LS</td><td>1</td></tr><tr><td>d)</td><td>Knee point voltage measurement of reactor</td><td></td><td>LS</td><td>1</td></tr></table>					Item	Description	Testing Location	Unit	Quantity	1	2	3	4	5	V	420kV, 63 and 125 MVAR Switchable Line Reactor				a)	Measurement of zero sequence reactance		LS	1	b)	Measurement of Accoustic Noise Level		LS	1	c)	Measurement of Harmonic Level at No-load current		LS	1	d)	Knee point voltage measurement of reactor		LS	1
Item	Description	Testing Location	Unit	Quantity																																																																													
V	420kV, 63 and 125 MVAR Switchable Line Reactor																																																																																
a)	Measurement of zero sequence reactance		LS	1																																																																													
b)	Dynamic Short Circuit test		LS	1																																																																													
c)	Measurement of Accoustic Noise Level		LS	1																																																																													
d)	Measurement of Harmonic Level at No-load current		LS	1																																																																													
e)	Knee point voltage measurement of reactor		LS	1																																																																													
Item	Description	Testing Location	Unit	Quantity																																																																													
1	2	3	4	5																																																																													
V	420kV, 63 and 125 MVAR Switchable Line Reactor																																																																																
a)	Measurement of zero sequence reactance		LS	1																																																																													
b)	Measurement of Accoustic Noise Level		LS	1																																																																													
c)	Measurement of Harmonic Level at No-load current		LS	1																																																																													
d)	Knee point voltage measurement of reactor		LS	1																																																																													

Handwritten signature

Handwritten signature

Handwritten signature

S. No.	Reference Cl. No. of the Bidding Document	Existing Provision	Amended Provision
2	Vol III, Schedule 1, Part 1, I, C.1, 420 kV GIS Equipment, s.no. 1.7	SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure and accessories (for Line bays)	SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure and accessories (for Line bays, transformer bays and Reactor bays)






S. No.	Reference Cl. No. of the Bidding Document	Existing Provision	Amended Provision																																																												
3	Vol III, Schedule 1, Part 1, I, C.1, 420KV GIS Equipment,	<table><tr><th>Sl. No.</th><th>Item Description</th></tr><tr><td>1.2</td><td>420kV, SF6 GIS Line feeder bay Module w/o PIR as per section project</td></tr><tr><td>a)</td><td>3000A, 63kA for 1 sec</td></tr><tr><td>1.3</td><td>420kV, SF6 GIS ICT feeder bay Module as per section project</td></tr><tr><td>a)</td><td>3000A, 63kA for 1 sec</td></tr><tr><td>1.4</td><td>420kV, SF6 GIS Line Connected Shunt Reactor feeder bay Module as per section project</td></tr><tr><td>a)</td><td>3000A, 63kA for 1 sec</td></tr><tr><td>1.5</td><td>420kV, SF6 GIS Tie bay Module w/o PIR as per section project</td></tr><tr><td>a)</td><td>3000A, 63kA for 1 sec</td></tr><tr><td>1.6</td><td>420kV, SF6 GIS Future feeder bay Module as per section project</td></tr><tr><td>a)</td><td>3000A, 63kA for 1 sec</td></tr><tr><td>1.7</td><td>SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure and accessories (for Line bays)</td></tr><tr><td>a)</td><td>3000A, 63kA for 1 sec. Single Phase</td></tr><tr><td>1.8</td><td>420kV, SF6 to Air Bushing along with associated support structure (for Line, Transformers & Reactors)</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec. Single Phase</td></tr></table>	Sl. No.	Item Description	1.2	420kV, SF6 GIS Line feeder bay Module w/o PIR as per section project	a)	3000A, 63kA for 1 sec	1.3	420kV, SF6 GIS ICT feeder bay Module as per section project	a)	3000A, 63kA for 1 sec	1.4	420kV, SF6 GIS Line Connected Shunt Reactor feeder bay Module as per section project	a)	3000A, 63kA for 1 sec	1.5	420kV, SF6 GIS Tie bay Module w/o PIR as per section project	a)	3000A, 63kA for 1 sec	1.6	420kV, SF6 GIS Future feeder bay Module as per section project	a)	3000A, 63kA for 1 sec	1.7	SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure and accessories (for Line bays)	a)	3000A, 63kA for 1 sec. Single Phase	1.8	420kV, SF6 to Air Bushing along with associated support structure (for Line, Transformers & Reactors)	a)	4000A, 63kA for 1 sec. Single Phase	<table><tr><th>Sl. No.</th><th>Item Description</th></tr><tr><td>1.2</td><td>420kV, SF6 GIS Line feeder bay Module w/o PIR as per section project</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec</td></tr><tr><td>1.3</td><td>420kV, SF6 GIS ICT feeder bay Module as per section project</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec</td></tr><tr><td>1.4</td><td>420kV, SF6 GIS Line Connected Shunt Reactor feeder bay Module as per section project</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec</td></tr><tr><td>1.5</td><td>420kV, SF6 GIS Tie bay Module w/o PIR as per section project</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec</td></tr><tr><td>1.6</td><td>420kV, SF6 GIS Future feeder bay Module as per section project</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec</td></tr><tr><td>1.7</td><td>SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure and accessories (for Line bays)</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec. Single Phase</td></tr><tr><td>1.8</td><td>420kV, SF6 to Air Bushing alongwith associated support structure (for Line, Transformers & Reactors)</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec. Single Phase</td></tr></table>	Sl. No.	Item Description	1.2	420kV, SF6 GIS Line feeder bay Module w/o PIR as per section project	a)	4000A, 63kA for 1 sec	1.3	420kV, SF6 GIS ICT feeder bay Module as per section project	a)	4000A, 63kA for 1 sec	1.4	420kV, SF6 GIS Line Connected Shunt Reactor feeder bay Module as per section project	a)	4000A, 63kA for 1 sec	1.5	420kV, SF6 GIS Tie bay Module w/o PIR as per section project	a)	4000A, 63kA for 1 sec	1.6	420kV, SF6 GIS Future feeder bay Module as per section project	a)	4000A, 63kA for 1 sec	1.7	SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure and accessories (for Line bays)	a)	4000A, 63kA for 1 sec. Single Phase	1.8	420kV, SF6 to Air Bushing alongwith associated support structure (for Line, Transformers & Reactors)	a)	4000A, 63kA for 1 sec. Single Phase
Sl. No.	Item Description																																																														
1.2	420kV, SF6 GIS Line feeder bay Module w/o PIR as per section project																																																														
a)	3000A, 63kA for 1 sec																																																														
1.3	420kV, SF6 GIS ICT feeder bay Module as per section project																																																														
a)	3000A, 63kA for 1 sec																																																														
1.4	420kV, SF6 GIS Line Connected Shunt Reactor feeder bay Module as per section project																																																														
a)	3000A, 63kA for 1 sec																																																														
1.5	420kV, SF6 GIS Tie bay Module w/o PIR as per section project																																																														
a)	3000A, 63kA for 1 sec																																																														
1.6	420kV, SF6 GIS Future feeder bay Module as per section project																																																														
a)	3000A, 63kA for 1 sec																																																														
1.7	SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure and accessories (for Line bays)																																																														
a)	3000A, 63kA for 1 sec. Single Phase																																																														
1.8	420kV, SF6 to Air Bushing along with associated support structure (for Line, Transformers & Reactors)																																																														
a)	4000A, 63kA for 1 sec. Single Phase																																																														
Sl. No.	Item Description																																																														
1.2	420kV, SF6 GIS Line feeder bay Module w/o PIR as per section project																																																														
a)	4000A, 63kA for 1 sec																																																														
1.3	420kV, SF6 GIS ICT feeder bay Module as per section project																																																														
a)	4000A, 63kA for 1 sec																																																														
1.4	420kV, SF6 GIS Line Connected Shunt Reactor feeder bay Module as per section project																																																														
a)	4000A, 63kA for 1 sec																																																														
1.5	420kV, SF6 GIS Tie bay Module w/o PIR as per section project																																																														
a)	4000A, 63kA for 1 sec																																																														
1.6	420kV, SF6 GIS Future feeder bay Module as per section project																																																														
a)	4000A, 63kA for 1 sec																																																														
1.7	SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure and accessories (for Line bays)																																																														
a)	4000A, 63kA for 1 sec. Single Phase																																																														
1.8	420kV, SF6 to Air Bushing alongwith associated support structure (for Line, Transformers & Reactors)																																																														
a)	4000A, 63kA for 1 sec. Single Phase																																																														

S. No.	Reference Cl. No. of the Bidding Document	Existing Provision	Amended Provision																																																												
4	Vol III, Schedule 4(a), Part I, C.1, 420KV GIS Equipment	<table><tr><th>Sl. No.</th><th>Item Description</th></tr><tr><td>1.2</td><td>420kV, SF6 GIS Line feeder bay Module w/o PIR as per section project</td></tr><tr><td>a)</td><td>3000A, 63kA for 1 sec</td></tr><tr><td>1.3</td><td>420kV, SF6 GIS ICT feeder bay Module as per section project</td></tr><tr><td>a)</td><td>3000A, 63kA for 1 sec</td></tr><tr><td>1.4</td><td>420kV, SF6 GIS Shunt Reactor feeder bay Module as per section project</td></tr><tr><td>a)</td><td>3000A, 63kA for 1 sec</td></tr><tr><td>1.5</td><td>420kV, SF6 GIS Tie bay Module w/o PIR as per section project</td></tr><tr><td>a)</td><td>3000A, 63kA for 1 sec</td></tr><tr><td>1.6</td><td>420kV, SF6 GIS Future feeder bay Module as per section project</td></tr><tr><td>a)</td><td>3000A, 63kA for 1 sec</td></tr><tr><td>1.7</td><td>SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure and accessories (for Line bays)</td></tr><tr><td>a)</td><td>3000A, 63kA for 1 sec. Single Phase</td></tr><tr><td>1.8</td><td>420kV, SF6 to Air Bushing alongwith associated support structure (for Line, Transformers & Reactors)</td></tr><tr><td>a)</td><td>3000A, 63kA for 1 sec. Single Phase</td></tr></table>	Sl. No.	Item Description	1.2	420kV, SF6 GIS Line feeder bay Module w/o PIR as per section project	a)	3000A, 63kA for 1 sec	1.3	420kV, SF6 GIS ICT feeder bay Module as per section project	a)	3000A, 63kA for 1 sec	1.4	420kV, SF6 GIS Shunt Reactor feeder bay Module as per section project	a)	3000A, 63kA for 1 sec	1.5	420kV, SF6 GIS Tie bay Module w/o PIR as per section project	a)	3000A, 63kA for 1 sec	1.6	420kV, SF6 GIS Future feeder bay Module as per section project	a)	3000A, 63kA for 1 sec	1.7	SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure and accessories (for Line bays)	a)	3000A, 63kA for 1 sec. Single Phase	1.8	420kV, SF6 to Air Bushing alongwith associated support structure (for Line, Transformers & Reactors)	a)	3000A, 63kA for 1 sec. Single Phase	<table><tr><th>Sl. No.</th><th>Item Description</th></tr><tr><td>1.2</td><td>420kV, SF6 GIS Line feeder bay Module w/o PIR as per section project</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec</td></tr><tr><td>1.3</td><td>420kV, SF6 GIS ICT feeder bay Module as per section project</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec</td></tr><tr><td>1.4</td><td>420kV, SF6 GIS Shunt Reactor feeder bay Module as per section project</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec</td></tr><tr><td>1.5</td><td>420kV, SF6 GIS Tie bay Module w/o PIR as per section project</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec</td></tr><tr><td>1.6</td><td>420kV, SF6 GIS Future feeder bay Module as per section project</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec</td></tr><tr><td>1.7</td><td>SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure and accessories (for Line bays)</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec. Single Phase</td></tr><tr><td>1.8</td><td>420kV, SF6 to Air Bushing alongwith associated support structure (for Line, Transformers & Reactors)</td></tr><tr><td>a)</td><td>4000A, 63kA for 1 sec. Single Phase</td></tr></table>	Sl. No.	Item Description	1.2	420kV, SF6 GIS Line feeder bay Module w/o PIR as per section project	a)	4000A, 63kA for 1 sec	1.3	420kV, SF6 GIS ICT feeder bay Module as per section project	a)	4000A, 63kA for 1 sec	1.4	420kV, SF6 GIS Shunt Reactor feeder bay Module as per section project	a)	4000A, 63kA for 1 sec	1.5	420kV, SF6 GIS Tie bay Module w/o PIR as per section project	a)	4000A, 63kA for 1 sec	1.6	420kV, SF6 GIS Future feeder bay Module as per section project	a)	4000A, 63kA for 1 sec	1.7	SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure and accessories (for Line bays)	a)	4000A, 63kA for 1 sec. Single Phase	1.8	420kV, SF6 to Air Bushing alongwith associated support structure (for Line, Transformers & Reactors)	a)	4000A, 63kA for 1 sec. Single Phase
Sl. No.	Item Description																																																														
1.2	420kV, SF6 GIS Line feeder bay Module w/o PIR as per section project																																																														
a)	3000A, 63kA for 1 sec																																																														
1.3	420kV, SF6 GIS ICT feeder bay Module as per section project																																																														
a)	3000A, 63kA for 1 sec																																																														
1.4	420kV, SF6 GIS Shunt Reactor feeder bay Module as per section project																																																														
a)	3000A, 63kA for 1 sec																																																														
1.5	420kV, SF6 GIS Tie bay Module w/o PIR as per section project																																																														
a)	3000A, 63kA for 1 sec																																																														
1.6	420kV, SF6 GIS Future feeder bay Module as per section project																																																														
a)	3000A, 63kA for 1 sec																																																														
1.7	SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure and accessories (for Line bays)																																																														
a)	3000A, 63kA for 1 sec. Single Phase																																																														
1.8	420kV, SF6 to Air Bushing alongwith associated support structure (for Line, Transformers & Reactors)																																																														
a)	3000A, 63kA for 1 sec. Single Phase																																																														
Sl. No.	Item Description																																																														
1.2	420kV, SF6 GIS Line feeder bay Module w/o PIR as per section project																																																														
a)	4000A, 63kA for 1 sec																																																														
1.3	420kV, SF6 GIS ICT feeder bay Module as per section project																																																														
a)	4000A, 63kA for 1 sec																																																														
1.4	420kV, SF6 GIS Shunt Reactor feeder bay Module as per section project																																																														
a)	4000A, 63kA for 1 sec																																																														
1.5	420kV, SF6 GIS Tie bay Module w/o PIR as per section project																																																														
a)	4000A, 63kA for 1 sec																																																														
1.6	420kV, SF6 GIS Future feeder bay Module as per section project																																																														
a)	4000A, 63kA for 1 sec																																																														
1.7	SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure and accessories (for Line bays)																																																														
a)	4000A, 63kA for 1 sec. Single Phase																																																														
1.8	420kV, SF6 to Air Bushing alongwith associated support structure (for Line, Transformers & Reactors)																																																														
a)	4000A, 63kA for 1 sec. Single Phase																																																														

Emo.

Emo.

ES

S. No	Reference Cl. No. of the Bidding Document	Existing Provision	Amended Provision
5	Vol II, Chapter 1, Clause 3.2.1.1.1, 420kV Gas Insulated Switchgear (b)	b) 420kV, 63kA for 1 second, SF6 gas-insulated metal enclosed <u>Line feeder bay modules</u> each set comprising of the following: (i) One (1) number 3-phase, 3000A, SF6 insulated circuit breaker without PIR complete with operating mechanism. (ii) Three (3) numbers 1-phase, 3000A, 6-core (i.e., 4 protection core + 2 metering core), multi ratio, current transformers duly distributed on both side of circuit breaker. (iii) Three (3) numbers 3-phase, 3000A, group operated isolator switches, complete with manual and motor driven operating mechanisms. (iv) Three (3) numbers 3-phase, group operated safety grounding switches, complete with manual and motor driven operating mechanisms. (v) One (1) number 3-phase, high speed fault make grounding switch, complete with group operated manual and motor driven operating mechanisms. (vi) Three Nos. 1-phase, 3000A, SF6 ducts inside GIS Hall (up to the outer edge of the wall of GIS Hall). (vii) Gas monitoring devices, barriers, pressure switches, UHF PD Sensors etc. as required. (viii) Local Control Cubicle	b) 420kV, 63kA for 1 second, SF6 gas-insulated metal enclosed <u>Line feeder bay modules</u> each set comprising of the following: (i) One (1) number 3-phase, 4000A, SF6 insulated circuit breaker without PIR complete with operating mechanism. (ii) Three (3) numbers 1-phase, 4000A, 6-core (i.e., 4 protection core + 2 metering core), multi ratio, current transformers duly distributed on both side of circuit breaker. (iii) Three (3) numbers 3-phase, 4000A, group operated isolator switches, complete with manual and motor driven operating mechanisms. (iv) Three (3) numbers 3-phase, group operated safety grounding switches, complete with manual and motor driven operating mechanisms. (v) One (1) number 3-phase, high speed fault make grounding switch, complete with group operated manual and motor driven operating mechanisms. (vi) Three Nos. 1-phase, 4000A, SF6 ducts inside GIS Hall (up to the outer edge of the wall of GIS Hall). (vii) Gas monitoring devices, barriers, pressure switches, UHF PD Sensors etc. as required. (viii) Local Control Cubicle

S. No.	Reference Cl. No. of the Bidding Document	Existing Provision	Amended Provision
6	Vol II, Chapter 1, Clause 3.2.1.1.1, 420kV Gas Insulated Switchgear (c)	c) 420kV, 63kA for 1 second, SF₆ gas-insulated metal enclosed <u>ICT bay module</u> each set comprising of the following: - (i) One (1) number 3-phase, 3000A, SF₆ insulated circuit breaker with controlled switching device (CSD) without PIR complete with operating mechanism and controlled switching device. (ii) Three (3) numbers 1-phase, 3000A, 6-core (i.e. 4 protection core + 2 metering core), multi ratio, current transformers duly distributed on both side of circuit breaker. (iii) Three (3) numbers 3-phase, 3000A, group operated isolator switches, complete with manual and motor driven operating mechanisms. (iv) Four (4) numbers 3-phase, group operated safety-grounding switches, complete with manual and motor driven operating mechanisms. (v) Three Nos. 1-phase, 3000A, SF₆ ducts inside GIS Hall (up to the outer edge of the wall of GIS Hall). (vi) Gas monitoring devices, barriers, pressure switches, UHF PD Sensors etc. as required (vii) Local Control Cubicle.	c) 420kV, 63kA for 1 second, SF₆ gas-insulated metal enclosed <u>ICT bay module</u> each set comprising of the following: - (i) One (1) number 3-phase, 4000A, SF₆ insulated circuit breaker with controlled switching device (CSD) without PIR complete with operating mechanism and controlled switching device. (ii) Three (3) numbers 1-phase, 4000A, 6-core (i.e. 4 protection core + 2 metering core), multi ratio, current transformers duly distributed on both side of circuit breaker. (iii) Three (3) numbers 3-phase, 4000A, group operated isolator switches, complete with manual and motor driven operating mechanisms. (iv) Four (4) numbers 3-phase, group operated safety-grounding switches, complete with manual and motor driven operating mechanisms. (v) Three Nos. 1-phase, 4000A, SF₆ ducts inside GIS Hall (up to the outer edge of the wall of GIS Hall). (vi) Gas monitoring devices, barriers, pressure switches, UHF PD Sensors etc. as required (vii) Local Control Cubicle.

Am.

SI

SI

S. No	Reference Cl. No. of the Bidding Document	Existing Provision	Amended Provision
7	Vol II, Chapter 1, Clause 3.2.1.1.1, 420kV Gas Insulated Switchgear (d)	(d) 420kV, 63kA for 1 second, SF6 gas-insulated metal enclosed <u>Switchable Line Shunt Reactor bay module</u> each set comprising of the following: - (i) One (1) number 3-phase, 3000A, SF6 insulated circuit breaker with controlled switching device (CSD) without PIR complete with operating mechanism and controlled switching device. (ii) Three (3) numbers 1-phase, 3000A, 6-core (i.e. 4 protection core + 2 metering core), multi ratio, current transformers duly distributed on both side of circuit breaker. (iii) Three (3) numbers 3-phase, 3000A, group operated isolator switches, complete with manual and motor driven operating mechanisms. (iv) Four (4) numbers 3-phase, group operated safety-grounding switches, complete with manual and motor driven operating mechanisms. (v) Three Nos. 1-phase, 3000A, SF6 ducts inside GIS Hall (up to the outer edge of the wall of GIS Hall). (vi) Gas monitoring devices, barriers, pressure switches, UHF PD Sensors etc. as required (vii) Local Control Cubicle.	(d) 420kV, 63kA for 1 second, SF6 gas-insulated metal enclosed <u>Switchable Line Shunt Reactor bay module</u> each set comprising of the following: - (i) One (1) number 3-phase, 4000A, SF6 insulated circuit breaker with controlled switching device (CSD) without PIR complete with operating mechanism and controlled switching device. (ii) Three (3) numbers 1-phase, 4000A, 6-core (i.e. 4 protection core + 2 metering core), multi ratio, current transformers duly distributed on both side of circuit breaker. (iii) Three (3) numbers 3-phase, 4000A, group operated isolator switches, complete with manual and motor driven operating mechanisms. (iv) Four (4) numbers 3-phase, group operated safety-grounding switches, complete with manual and motor driven operating mechanisms. (v) Three Nos. 1-phase, 4000A, SF6 ducts inside GIS Hall (up to the outer edge of the wall of GIS Hall). (vi) Gas monitoring devices, barriers, pressure switches, UHF PD Sensors etc. as required (vii) Local Control Cubicle.

Kuo:

mf

RF TS

S. No.	Reference Cl. No. of the Bidding Document	Existing Provision	Amended Provision
8.	Vol II, Chapter 1, Clause 3.2.1.1.1, 420kV Gas Insulated Switchgear (e)	(e) 420kV, 63kA for 1 second, SF6 gas-insulated metal enclosed <u>Tie bay module (without CSD)</u> each set comprising of the following: - (i) One (1) number 3-phase, 3000A, SF₆ insulated circuit breaker without PIR complete with operating mechanism and without controlled switching device (CSD). (ii) Three (3) numbers 1-phase, 3000A, 6-core (i.e. 4 protection core + 2 metering core), multi ratio, current transformers duly distributed on both side of circuit breaker. (iii) Two (2) numbers 3-phase, 3000A, group operated isolator switches, complete with manual and motor driven operating mechanisms. (iv) Two (2) numbers 3-phase, group operated safety-grounding switches, complete with manual and motor driven operating mechanisms. (v) Gas monitoring devices, barriers, pressure switches, UHF PD Sensors etc. as required. (vi) Local Control Cubicle.	(e) 420kV, 63kA for 1 second, SF6 gas-insulated metal enclosed <u>Tie bay module (without CSD)</u> each set comprising of the following: - (i) One (1) number 3-phase, 4000A, SF₆ insulated circuit breaker without PIR complete with operating mechanism and without controlled switching device (CSD). (ii) Three (3) numbers 1-phase, 4000A, 6-core (i.e. 4 protection core + 2 metering core), multi ratio, current transformers duly distributed on both side of circuit breaker. (iii) Two (2) numbers 3-phase, 4000A, group operated isolator switches, complete with manual and motor driven operating mechanisms. (iv) Two (2) numbers 3-phase, group operated safety-grounding switches, complete with manual and motor driven operating mechanisms. (v) Gas monitoring devices, barriers, pressure switches, UHF PD Sensors etc. as required. (vi) Local Control Cubicle.

S. No	Reference Cl. No. of the Bidding Document	Existing Provision	Amended Provision
X 9.	Vol II, Chapter 1, Clause 3.2.1.1.1, 420kV Gas Insulated Switchgear (f)	(f) 420kV, 63kA for 1 second, SF6 gas-insulated metal enclosed <u>Tie bay module (with CSD)</u> each set comprising of the following: - (i) One (1) number 3-phase, 3000A, SF₆ insulated circuit breaker with controlled switching device (CSD) without PIR complete with operating mechanism. (ii) Three (3) numbers 1-phase, 3000A, 6-core (i.e. 4 protection core + 2 metering core), multi ratio, current transformers duly distributed on both side of circuit breaker. (iii) Two (2) numbers 3-phase, 3000A, group operated isolator switches, complete with manual and motor driven operating mechanisms. (iv) Two (2) numbers 3-phase, group operated safety-grounding switches, complete with manual and motor driven operating mechanisms. (v) Gas monitoring devices, barriers, pressure switches UHF PD Sensors etc. as required. (vi) Local Control Cubicle.	f) 420kV, 63kA for 1 second, SF6 gas-insulated metal enclosed <u>Tie bay module (with CSD)</u> each set comprising of the following: - (i) One (1) number 3-phase, 4000A, SF₆ insulated circuit breaker with controlled switching device (CSD) without PIR complete with operating mechanism. (ii) Three (3) numbers 1-phase, 4000A, 6-core (i.e. 4 protection core + 2 metering core), multi ratio, current transformers duly distributed on both side of circuit breaker. (iii) Two (2) numbers 3-phase, 4000A, group operated isolator switches, complete with manual and motor driven operating mechanisms. (iv) Two (2) numbers 3-phase, group operated safety-grounding switches, complete with manual and motor driven operating mechanisms. (v) Gas monitoring devices, barriers, pressure switches UHF PD Sensors etc. as required. (vi) Local Control Cubicle.

me

op

Rf *ts*

S. No.	Reference Cl. No. of the Bidding Document	Existing Provision	Amended Provision
8 10	Vol II, Chapter 1, Clause 3.2.1.1.1, 420kV Gas Insulated Switchgear (g)	(g) 420kV, 63kA for 1 second, SF6 gas-insulated metal enclosed <u>Future feeder bay modules</u> each set comprising of the following: - (i) One (1) number 3-phase, 3000A, SF6 insulated circuit breaker without PIR complete with operating mechanism. (ii) Three (3) numbers 1-phase, 3000A, 6-core (i.e., 4 protection core + 2 metering core), multi ratio, current transformers duly distributed on both side of circuit breaker. (iii) Three (3) numbers 3-phase, 3000A, group operated isolator switches, complete with manual and motor driven operating mechanisms. (iv) Three (3) numbers 3-phase, group operated safety grounding switches, complete with manual and motor driven operating mechanisms. (v) One (1) number 3-phase, high speed fault make grounding switch, complete with group operated manual and motor driven operating mechanisms. (vi) Three Nos. 1-phase, 3000A, SF6 ducts inside GIS Hall (up to the outer edge of the wall of GIS Hall). (vii) Gas monitoring devices, barriers, pressure switches, UHF PD Sensors etc. as required. (viii) Local Control Cubicle.	(g) 420kV, 63kA for 1 second, SF6 gas-insulated metal enclosed <u>Future feeder bay modules</u> each set comprising of the following: - (i) One (1) number 3-phase, 4000A, SF6 insulated circuit breaker without PIR complete with operating mechanism. (ii) Three (3) numbers 1-phase, 4000A, 6-core (i.e., 4 protection core + 2 metering core), multi ratio, current transformers duly distributed on both side of circuit breaker. (iii) Three (3) numbers 3-phase, 4000A, group operated isolator switches, complete with manual and motor driven operating mechanisms. (iv) Three (3) numbers 3-phase, group operated safety grounding switches, complete with manual and motor driven operating mechanisms. (v) One (1) number 3-phase, high speed fault make grounding switch, complete with group operated manual and motor driven operating mechanisms. (vi) Three Nos. 1-phase, 4000A, SF6 ducts inside GIS Hall (up to the outer edge of the wall of GIS Hall). (vii) Gas monitoring devices, barriers, pressure switches, UHF PD Sensors etc. as required. (viii) Local Control Cubicle.

Law.

OP

BB

S. No.	Reference Cl. No. of the Bidding Document	Existing Provision	Amended Provision
911	Vol II, Chapter 1, Clause 3.2.1.1.1, 420kV Gas Insulated Switchgear (i)	(i) 420kV, Gas Insulated SF6 to Air Termination: - (i) 420kV, 3000A (as per BPS), 1-phase SF ₆ to air bushings for outdoor overhead connections. The cantilever strength of the 420kV SF ₆ to air bushings shall be of minimum 10kN.	(i) 420kV, Gas Insulated SF6 to Air Termination: - (i) 420kV, 4000 A (as per BPS), 1-phase SF ₆ to air bushings for outdoor overhead connections. The cantilever strength of the 420kV SF ₆ to air bushings shall be of minimum 10kN.
1012	Vol I, Section 3, 2.4.1 Contracts of Similar Size and Nature	Participation as main contractor and/or JV partner in at least two contracts that have been successfully or substantially completed within the last 10 (Ten) years and that are similar to the proposed contract, where the value of the Bidder's participation under each contract exceeds USD 44.00 Million.	Participation as main contractor, JV partner or Sub-contractor , in at least two contracts that have been successfully or substantially completed within the last 10 (Ten) years and that are similar to the proposed contract, where the value of the Bidder's participation under each contract exceeds USD 44.00 Million.
1213	Vol II, CHAPTER-19: GAS INSULATED SWITCHGEAR, ANNEXURE-5: TECHNICAL	2. Rated Current (Amp) for 400 kV 2000/3150/ 5000 as applicable	2. Rated Current (Amp) for 400 kV 2000/3150/ 4000 /5000 as applicable

S. No .	Reference Cl. No. of the Bidding Document	Existing Provision	Amended Provision
	PARAMETERS FOR SF6/AIR BUSHING, Sl. No.2		






S. No	Reference Cl. No. of the Bidding Document	Existing Provision	Amended Provision																																																																																																																														
12 14	Vol II, CHAPTER-19: GAS INSULATED SWITCHGEAR, ANNEXURE-3: TABLE 3A: REQUIREMENTS FOR 400 kV CURRENT TRANSFORMER	TABLE 3A: REQUIREMENTS FOR 400 kV CURRENT TRANSFORMER <table><tr><th>No. of cores</th><th>Core No.</th><th>Application</th><th>Ratio</th><th>Output Burden</th><th>Accuracy Class</th><th>Min. Knee Pt. Voltage (Vk)</th><th>Max. CT Sec. wdg. Resistance (in ohm)</th><th>Max. Excit. Current at Vk (in mA)</th></tr><tr><td>6</td><td>1</td><td>BUS DIFF. CHECK</td><td>3000/2000/500/1</td><td>-</td><td>PX</td><td>3000/2000/500</td><td>15/10/2.5</td><td>20 on 3000/1 TAP; 30 on 2000/1; 120 on 500/1 tap</td></tr><tr><td></td><td>2</td><td>BUS DIFF. MAIN</td><td>3000/2000/500/1</td><td>-</td><td>PX</td><td>3000/2000/500</td><td>15/10/2.5</td><td>20 on 3000/1 TAP; 30 on 2000/1; 120 on 500/1 tap</td></tr><tr><td></td><td>3</td><td>METERING</td><td>3000/2000/500/1</td><td>20/20/20</td><td>0.2S/0.2S/0.2S</td><td>-/-/-</td><td>-</td><td>-/-/-</td></tr><tr><td></td><td>4</td><td>METERING</td><td>3000/2000/500/1</td><td>20/20/20</td><td>0.2S/0.2S/0.2S</td><td>-/-/-</td><td>-</td><td>-/-/-</td></tr><tr><td></td><td>5</td><td>TRANS. BACK UP/LINE PROT.N.</td><td>3000/2000/500/1</td><td>-</td><td>PX</td><td>3000/2000/500</td><td>15/10/2.5</td><td>20 on 3000/1 TAP; 30 on 2000/1; 120 on 500/1 tap</td></tr><tr><td></td><td>6</td><td>TRANS. DIFF. /LINE PROT.N.</td><td>3000/2000/500/1</td><td>-</td><td>PX</td><td>3000/2000/500</td><td>15/10/2.5</td><td>20 on 3000/1 TAP; 30 on 2000/1; 120 on 500/1 tap</td></tr></table> Note: 1. Protection cores shall be of accuracy class PX as per IEC 61869. 2. Metering Core shall be of accuracy class 0.2S as per IEC: 61869.	No. of cores	Core No.	Application	Ratio	Output Burden	Accuracy Class	Min. Knee Pt. Voltage (Vk)	Max. CT Sec. wdg. Resistance (in ohm)	Max. Excit. Current at Vk (in mA)	6	1	BUS DIFF. CHECK	3000/2000/500/1	-	PX	3000/2000/500	15/10/2.5	20 on 3000/1 TAP; 30 on 2000/1; 120 on 500/1 tap		2	BUS DIFF. MAIN	3000/2000/500/1	-	PX	3000/2000/500	15/10/2.5	20 on 3000/1 TAP; 30 on 2000/1; 120 on 500/1 tap		3	METERING	3000/2000/500/1	20/20/20	0.2S/0.2S/0.2S	-/-/-	-	-/-/-		4	METERING	3000/2000/500/1	20/20/20	0.2S/0.2S/0.2S	-/-/-	-	-/-/-		5	TRANS. BACK UP/LINE PROT.N.	3000/2000/500/1	-	PX	3000/2000/500	15/10/2.5	20 on 3000/1 TAP; 30 on 2000/1; 120 on 500/1 tap		6	TRANS. DIFF. /LINE PROT.N.	3000/2000/500/1	-	PX	3000/2000/500	15/10/2.5	20 on 3000/1 TAP; 30 on 2000/1; 120 on 500/1 tap	TABLE 3A: REQUIREMENTS FOR 400 kV CURRENT TRANSFORMER <table><tr><th>No. of cores</th><th>Core No.</th><th>Application</th><th>Ratio</th><th>Output Burden</th><th>Accuracy Class</th><th>Min. Knee Pt. Voltage (Vk)</th><th>Max. CT Sec. wdg. Resistance (in ohm)</th><th>Max. Excit. Current at Vk (in mA)</th></tr><tr><td>6</td><td>1</td><td>BUS DIFF. CHECK</td><td>4000/2000/500/1</td><td>-</td><td>PX</td><td>4000/2000/500</td><td>15/10/2.5</td><td>20 on 4000/1 TAP; 30 on 2000/1; 120 on 500/1 tap</td></tr><tr><td></td><td>2</td><td>BUS DIFF. MAIN</td><td>4000/2000/500/1</td><td>-</td><td>PX</td><td>4000/2000/500</td><td>15/10/2.5</td><td>20 on 4000/1 TAP; 30 on 2000/1; 120 on 500/1 tap</td></tr><tr><td></td><td>3</td><td>METERING</td><td>4000/2000/500/1</td><td>20/20/20</td><td>0.2S/0.2S/0.2S</td><td>-/-/-</td><td>-</td><td>-/-/-</td></tr><tr><td></td><td>4</td><td>METERING</td><td>4000/2000/500/1</td><td>20/20/20</td><td>0.2S/0.2S/0.2S</td><td>-/-/-</td><td>-</td><td>-/-/-</td></tr><tr><td></td><td>5</td><td>TRANS. BACK UP/LINE PROT.N.</td><td>4000/2000/500/1</td><td>-</td><td>PX</td><td>4000/2000/500</td><td>15/10/2.5</td><td>20 on 4000/1 TAP; 30 on 2000/1; 120 on 500/1 tap</td></tr><tr><td></td><td>6</td><td>TRANS. DIFF. /LINE PROT.N.</td><td>4000/2000/500/1</td><td>-</td><td>PX</td><td>4000/2000/500</td><td>15/10/2.5</td><td>20 on 4000/1 TAP; 30 on 2000/1; 120 on 500/1 tap</td></tr></table> Note: 1. Protection cores shall be of accuracy class PX as per IEC 61869. 2. Metering cores shall be of accuracy class 0.2S as per IEC: 61869.	No. of cores	Core No.	Application	Ratio	Output Burden	Accuracy Class	Min. Knee Pt. Voltage (Vk)	Max. CT Sec. wdg. Resistance (in ohm)	Max. Excit. Current at Vk (in mA)	6	1	BUS DIFF. CHECK	4000/2000/500/1	-	PX	4000/2000/500	15/10/2.5	20 on 4000/1 TAP; 30 on 2000/1; 120 on 500/1 tap		2	BUS DIFF. MAIN	4000/2000/500/1	-	PX	4000/2000/500	15/10/2.5	20 on 4000/1 TAP; 30 on 2000/1; 120 on 500/1 tap		3	METERING	4000/2000/500/1	20/20/20	0.2S/0.2S/0.2S	-/-/-	-	-/-/-		4	METERING	4000/2000/500/1	20/20/20	0.2S/0.2S/0.2S	-/-/-	-	-/-/-		5	TRANS. BACK UP/LINE PROT.N.	4000/2000/500/1	-	PX	4000/2000/500	15/10/2.5	20 on 4000/1 TAP; 30 on 2000/1; 120 on 500/1 tap		6	TRANS. DIFF. /LINE PROT.N.	4000/2000/500/1	-	PX	4000/2000/500	15/10/2.5	20 on 4000/1 TAP; 30 on 2000/1; 120 on 500/1 tap
No. of cores	Core No.	Application	Ratio	Output Burden	Accuracy Class	Min. Knee Pt. Voltage (Vk)	Max. CT Sec. wdg. Resistance (in ohm)	Max. Excit. Current at Vk (in mA)																																																																																																																									
6	1	BUS DIFF. CHECK	3000/2000/500/1	-	PX	3000/2000/500	15/10/2.5	20 on 3000/1 TAP; 30 on 2000/1; 120 on 500/1 tap																																																																																																																									
	2	BUS DIFF. MAIN	3000/2000/500/1	-	PX	3000/2000/500	15/10/2.5	20 on 3000/1 TAP; 30 on 2000/1; 120 on 500/1 tap																																																																																																																									
	3	METERING	3000/2000/500/1	20/20/20	0.2S/0.2S/0.2S	-/-/-	-	-/-/-																																																																																																																									
	4	METERING	3000/2000/500/1	20/20/20	0.2S/0.2S/0.2S	-/-/-	-	-/-/-																																																																																																																									
	5	TRANS. BACK UP/LINE PROT.N.	3000/2000/500/1	-	PX	3000/2000/500	15/10/2.5	20 on 3000/1 TAP; 30 on 2000/1; 120 on 500/1 tap																																																																																																																									
	6	TRANS. DIFF. /LINE PROT.N.	3000/2000/500/1	-	PX	3000/2000/500	15/10/2.5	20 on 3000/1 TAP; 30 on 2000/1; 120 on 500/1 tap																																																																																																																									
No. of cores	Core No.	Application	Ratio	Output Burden	Accuracy Class	Min. Knee Pt. Voltage (Vk)	Max. CT Sec. wdg. Resistance (in ohm)	Max. Excit. Current at Vk (in mA)																																																																																																																									
6	1	BUS DIFF. CHECK	4000/2000/500/1	-	PX	4000/2000/500	15/10/2.5	20 on 4000/1 TAP; 30 on 2000/1; 120 on 500/1 tap																																																																																																																									
	2	BUS DIFF. MAIN	4000/2000/500/1	-	PX	4000/2000/500	15/10/2.5	20 on 4000/1 TAP; 30 on 2000/1; 120 on 500/1 tap																																																																																																																									
	3	METERING	4000/2000/500/1	20/20/20	0.2S/0.2S/0.2S	-/-/-	-	-/-/-																																																																																																																									
	4	METERING	4000/2000/500/1	20/20/20	0.2S/0.2S/0.2S	-/-/-	-	-/-/-																																																																																																																									
	5	TRANS. BACK UP/LINE PROT.N.	4000/2000/500/1	-	PX	4000/2000/500	15/10/2.5	20 on 4000/1 TAP; 30 on 2000/1; 120 on 500/1 tap																																																																																																																									
	6	TRANS. DIFF. /LINE PROT.N.	4000/2000/500/1	-	PX	4000/2000/500	15/10/2.5	20 on 4000/1 TAP; 30 on 2000/1; 120 on 500/1 tap																																																																																																																									

S. No.	Reference Cl. No. of the Bidding Document	Existing Provision	Amended Provision
13 15	Cables	S.No. 1 to 5 are missing in Annexure -I , Page No. 10	The updated GTP of the EHV Cable is supplemented.
14 16	OPGW	Missing the Technical Specification.	The updated GTP of the OPGW is supplemented.

The Amendments/Clarification/Addendum issued in this document shall be treated as a part of the Bidding document from here and after and shall be read with the original Bidding Document and subsequently issued corrigendum documents.

For Further Details, Please Contact :



New Butwal Lamahi 400 kV Transmission Line Project
Transmission Line and Substation Department
Project Management Directorate
Matatirtha, Kathmandu
Electronic mail address : nbktl@nea.org.np/nbktl123@gmail.com