OIL INDIA LIMITED
(A Government of India Enterprise)
CONTRACTS DEPARTMENT
P.O. DULIAJAN – 786602, ASSAM

CORRIGENDUM

Corrigendum No. 3 dated 10.05.2018 to IFB No. CDI7408P18

This Corrigendum No. 3 dated 10.05.2018 to IFB No. CDI7408P18 for "Design and construction of 03 Nos. of substation building and 01 No. of Switch Room including supply, installation, testing and commissioning of electrical equipment of 03 Nos. 11KV/415V substation and 01 No. of 11KV/415V Switch room at Duliajan on LSTK basis" is issued to notify changes against the clauses as attached vide Annexure-I

All others terms and conditions of the Bid Document remain unchanged. Details can be viewed at www.oil-india.com.

MANAGER-CONTRACTS(S)

IFB No. CDI7408P18 for Design and construction of 03 Nos. of substation building and 01 No. of Switch Room including supply, installation, testing and commissioning of electrical equipment of 03 Nos. 11KV/415V substation and 01 No. of 11KV/415V Switch room at Duliajan on LSTK basis.

Sl. No.	Existing Clause No.	Existing Clause	Amendment
1	SOQ PART-II SCHEDULE OF WORK 11 kV electrical substation – 21 near DD Clause 8 Earthing Page No. 15 of 17 11 kV electrical substation - Bijulibari Clause 8 Earthing Page No. 15 of 17 11 kV electrical substation – Switchroom-3 Clause 8 Earthing Page No. 15 of 17 11 kV electrical substation - Tingri Clause 8 Earthing Page No. 13 of 15	**Clause 8 Earthing** (i) Supply and burying of heavy duty, Chemical electrode with suitable chemical for soil treatment and providing masonry enclosure size 600mmx 600mm x 600mm with RCC cover plate having 2 Nos. metallic hooks for lifting cover and funnel type arrangement for watering pipe etc. complete as required – Minimum no. – 10 Nos. The no. of earth electrodes may be more. The value of earth resistance to be maintained for each substation when connected all the earth electrodes together > 1 Ohm.	**Clause 8 Earthing** (i) Supply and burying of heavy duty, Chemical electrode with suitable chemical for soil treatment and providing masonry enclosure size 600mmx 600mm x600mm with RCC cover plate having 2 nos. metallic hooks for lifting cover. **The no. of earth electrodes per substations is dependent upon the final value of earth resistance obtained for each earthing circuit, (when the earth electrodes in that circuit are connected together). This value shall be less than 01 (one) Ohm for each earthing circuit. However, the minimum quantity of earth electrodes shall be 14 (fourteen) Nos.**
2	SCC PART-III ELECTRICAL PART (S) 13.0 Technical specifications of Earthing System Page No. 47 of 72	**13.0.2 Systems:** Note: For a two transformer sub-station total number of earth electrodes shall be 8 (4 for neutral earthing, two each for two transformers, and 2 for connection to VCB & 2 No. for PCC panel of common earth bus for body earthing). The no. of earth electrodes shall be more depends upon soil resistivity and the value of earth resistance which shall be not less than 5 ohms when connected together.	**13.0.2 Systems:** Note: For a two transformer sub-station minimum number of earth electrodes shall be **14 (fourteen) - 4 (four) Nos. for transformer neutral earthing, 4 (four) Nos. for transformer body earthing, 2 (two) Nos. for surge arrestors, 2 (two) Nos. for VCB earthing & 2 (two) Nos. for PCC earthing.** The no. of earth electrodes may be more depending upon soil resistivity and the value of earth resistance **shall not be more than 01 (one) Ohm.**

3	Civil Layout	11 KV Tingri Bari Substation	11 KV **Tingri Substation**
4	Annexure-III Acceptable Make with Specification: A. For 415V, AC equipment:	1. Digital Multifunction Meter Make: Schneider Power logic PM200 series, HPL - Socomec (Diris A41), Siemens PAC3200, Secure.	1. Digital Multifunction Meter Make: Schneider Power logic PM200 series, HPL -Socomec (Diris A41), Siemens PAC3200, Secure, **L&T.**
5	Annexure III Acceptable Make with Specification: A. For 415V, AC equipment:	8. MCCB: Make: i) Schneider Electric (Merlin Gerin): model compact NSX with electronic trip unit with micro logic. ii) ABB - Tmax Series, model-TP5 electronic Trip unit - LSIG. iii) Siemens India Ltd: Sentron VL MCCB, model VL standard with electronic release and microprocessor based ETULSIG/LSING. iv) Legrand: Model- DPX/DPX3 with LSIG release. v) GE India: Record Plus, FG with electronic trip unit. vi) Indoasian Optium Series with LSIG release	8. MCCB: Make: i) Schneider Electric (Merlin Gerin): model compact NSX with electronic trip unit with micro logic. ii) ABB - Tmax Series, model-TP5 electronic Trip unit -LSIG. iii) Siemens India Ltd: Sentron VL MCCB, model VL standard with electronic release and microprocessor based ETULSIG/LSING. iv) Legrand: Model- DPX/DPX3 with LSIG release. v) GE India: Record Plus, FG with electronic trip unit. vi) Indoasian Optium Series with LSIG release vii) **L&T**
6	Annexure III Acceptable Make with Specification: B. 11KV, AC HT equipment:	7. 11KV, Vacuum circuit breaker make Make: Siemens/ ABB/ Schneider/ Crompton greaves	7. **11KV, VCB panel make** Make: Siemens/ ABB/ Schneider/ Crompton greaves/**L&T**
7	SOQ PART-II, SCHEDULE OF WORK: 11 KV ELECTRICAL SUB-STATION – 21 near DD Equipment: HT Panel, Transformers, LT panel) Page no. 11 of 17 11 KV ELECTRICAL SUB-STATION - BIJULIBARI	**Item No. 5 LT Panel** 5. Interlocking Electrical through advance contacts in MCCB/ ACB's (incomers & Bus couplers) and mechanical castle key interlocking should be provided to ensure that only one supply is available at a time on each section of bus and to eliminate any possible of accidentally approaching two supplies at one bus section.	**Item No. 5 LT Panel** 5. Interlocking Electrical through advance contacts in MCCB/ ACBs (incomers & Bus couplers) and mechanical castle key interlocking should be provided to ensure that only one supply is available at a time on each section of bus and to eliminate any possibility of accidentally approaching two supplies at one bus section.

	Equipment: HT Panel, Transformers, LT panel) Page no. 11 of 17 11 KV ELECTRICAL SUB-STATION - SWITCH-ROOM 3 Equipment: HT Panel, Transformers, LT panel) Page no. 11 of 17 11 KV ELECTRICAL SUBSTATION - TINGRI Equipment: HT Panel, Transformers, LT panel) Page no. 11 of 15		**Lockable selector switch with key is to be provided for bypass the electrical interlock at the time of momentary paralleling of two (02) transformers.**
8	SCC Part III ELECTRICAL PART (T) Technical & other Deviations 2. TERMS OF PAYMENTS: Page no. 64 of 72	2.3. SECURITY DEPOSIT: Security Deposit shall be deducted from each running bill and the final bill to the extent of 7.5 % of contract value per year payable subject to a maximum amount of 5% of the tendered value. The earnest money deposited shall be adjusted against this security deposit. The security deposit shall be released on the expiry of guarantee period stipulated in the contract. Bank guarantee will not be accepted as security deposit.	**DELETED**
9	SOQ Part II SCHEDULE OF WORK: 11 KV ELECTRICAL SUB-STATION – 21 near DD Clause 3, Page no. 7 of 17 11 KV ELECTRICAL SUB-STATION - BIJULIBARI Clause 3, Page no. 7 of 17 11 KV ELECTRICAL SUB-STATION - SWITCH-ROOM 3 Clause 3, Page no. 7 of 17	Battery Bank and Charger Supply, installation, testing & commissioning of sealed maintenance free (SMF) lead acid battery with charger required for supply of continuous 24 Volt DC output voltage for closing/ tripping/indication circuit of 6 nos. 12KV, VCB panel board. Battery with charger consists of 12 Nos. 2.0 Volts basic cell in modular design, maintenance free batteries of 200 AH each and charging unit of 20 Amps. rating of rectifier with input voltage 200 to 250V AC, 50HZ, and output rated DC voltage 24Volt, 20amps. Incomer to battery charger shall have single phase supply with 20 Amps DP MCB with overload, short circuit protection along with a digital Ammeter & Voltmeter required for showing	Battery Bank and Charger Supply, installation, testing & commissioning of sealed maintenance free (SMF) lead acid battery with charger required for supply of continuous 24 Volt DC output voltage for closing/ tripping/indication circuit of 6 nos. 12KV, VCB panel board. Battery with charger consists of 12 Nos. 2.0 Volts basic cell in modular design, maintenance free batteries of 200 AH each and charging unit of 20 Amp rating of rectifier with input voltage 200 to 250V AC, 50HZ, and output rated DC voltage 24Volt, 20amps. **Battery charger shall have dual float and one boost charger for operation flexibility.** Incomer to battery charger shall have single phase supply with 20 Amps DP MCB with overload, short circuit protection along with a digital Ammeter & Voltmeter

	11 KV ELECTRICAL SUBSTATION - TINGRI Clause 3, Page no. 7 of 15	output voltage and current. Suitable rating of FRLS insulated copper conductor cable shall be used for wiring. The above arrangement is to be fixed in self stackable MS trays with insulated shoe. The battery charger shall have float and boost charger facility. This includes supply and laying of 3 core, 16 sqmm, armoured, PVC insulated, PVC sheathed, aluminium conductor, 1.1KV grade cable to laid in pucca trench from LT panel to Battery charger panel – 25mtrs	required for showing output voltage and current. Suitable rating of FRLS insulated copper conductor cable shall be used for wiring. The above arrangement is to be fixed in self-stackable MS trays with insulated shoe. This includes supply and laying of 3 core, 16 sqmm, armoured, PVC insulated, PVC sheathed, aluminium conductor, 1.1KV grade cable to laid in pucca trench from LT panel to Battery charger panel – 25 mtrs approx.
10	SCC Part III ELECTRICAL PART (S) Clause 8.0 Page 39 of 72	Clause 8.0 General Notes On PCC	Clause 8.0 General Notes On PCC **14. Authorized Panel board manufacturer/Channel partner of OEM shall have QAP for LT Panel.**
11	Annexure III B. 11KV, AC HT equipment	7. 11KV, Vacuum circuit breaker make: Make: Siemens/ ABB/ Schneider/ Crompton greaves	Clause 7. 11KV, **VCB Panel make**: Make: Siemens/ ABB/ Schneider/ Crompton greaves/**L&T**
12	SOQ Part II SCHEDULE OF WORK: 11 KV ELECTRICAL SUB-STATION – 21 near DD Page no. 14 of 17 11 KV ELECTRICAL SUB-STATION - BIJULIBARI Page no. 14 of 17 11 KV ELECTRICAL SUB-STATION - SWITCH-ROOM 3 Page no. 14 of 17 11 KV ELECTRICAL SUBSTATION - TINGRI Page no. 13 of 15	Clause 6 Cable (IX)	**(IX) Cable laying in the Cable Trench Inside the substation:** **Cables shall not be laid directly on the trench floor inside substation. Cable trays shall be provided.** **Cable tray should be Hot Dip Galvanized as per IS Specification and fabricated from 2 mm sheet steel, the side collar should be 75 mm with inner bend of 15 mm for 600 mm tray for power cables and for control cables, it should be 300 mm with 50 mm side collar with 15 mm inner bend. Cable tray should be supplied with GI coupler plate and Nut Bolts. The single length of cable tray should be 2.5 meter.** **Control cables between inter panels for DC supply to HT Panel, power to battery chargers, AC supply to HT Panel, cables for winding temperature tripping and alarm from transformer to HT panel and cable for HT-LT panel for inter tripping shall run in the 300mm tray.**

13	SOQ PART II SCHEDULE OF WORK: 11 KV ELECTRICAL SUB-STATION – 21 near DD Clause 6. Cable Page no. 13 of 17 & 14 of 17 11 KV ELECTRICAL SUB-STATION - SWITCH-ROOM 3 Clause 6. Cable Page no. 13 of 17 & 14 of 17 11 KV ELECTRICAL SUBSTATION - TINGRI Clause 6. Cable Page no. 12 of 15 & 13 of 15	(I) (b) Supply and laying of 1x240 Sqmm, (UE), 11KV, copper conductor, armoured cable to be laid in pucca trench inside the substation where trench shall be filled with sand. This cable shall be used from HT panel to HT side of transformer.	(I) (b) Supply and laying of 1x240 Sqmm, (UE), 11KV, copper conductor, armoured cable to be laid **on cable tray in pucca trench inside the substation.** This cable shall be used from HT panel to HT side of transformer.
		(III) Supply and laying 4core, 240sqmm. XLPE insulated, armoured, copper conductor, power cable of grade exceeding 1.1 KV. This cable shall be laid in pucca trench inside the substation where sand shall be filled in the trench. This cable shall be used for connection of LT side of transformer to LT panel.	III) Supply and laying 4core, 240 sqmm. XLPE insulated, armoured, copper conductor, power cable of grade exceeding 1.1 KV. This cable shall be laid **on cable tray in pucca trench inside the substation.** This cable shall be used for connection of LT side of transformer to LT panel.
		(VIII) Supplying of Sand and filling in the existing substation trench/Open masonry duct as required. 25 cubic mtr	(VIII) Supplying of sand and filling **of cable trench outside the substation/ open masonary duct as required and supplying of suitably designed multi-layered cable trays inside the substation cable trench as required.**
14	SOQ PART II SCHEDULE OF WORK: 11 KV ELECTRICAL SUB-STATION - BIJULIBARI Clause 6. Cable Page no. 13 of 17 & 14 of 17	(I) (b) Supply and laying of 1x240 Sqmm, (UE), 11KV, copper conductor, armoured cable to be laid in pucca trench inside the substation where trench shall be filled with sand. This cable shall be used from HT panel to HT side of transformer.	(I) (b) Supply and laying of 1x240 Sqmm, (UE), 11KV, copper conductor, armoured cable to be laid **on cable tray in pucca trench inside the substation.** This cable shall be used from HT panel to HT side of transformer.
		(III) Supply and laying 4core, 240sqmm. XLPE insulated, armoured, copper conductor, power cable of grade exceeding 1.1 KV. This cable shall be laid in pucca trench inside the substation where sand shall be filled in the trench. This cable shall be used for connection of LT side of transformer to LT panel.	III) Supply and laying 4core, 240 sqmm. XLPE insulated, armoured, copper conductor, power cable of grade exceeding 1.1 KV. This cable shall be laid **on cable tray in pucca trench inside the substation.** This cable shall be used for connection of LT side of transformer to LT panel.
		(VIII) Supplying of Sand and filling in the existing substation trench/Open masonry duct as required. 25 cubic mtr	**(VIII) Old cable trench of existing Bijulibari Substation shall be modified as per the cable trench of the new substation.**

15	SOQ PART II SCHEDULE OF WORK: 11 KV ELECTRICAL SUB-STATION – 21 near DD Equipment: HT Panel, Transformers, LT panel) Page no. 13 of 17 11 KV ELECTRICAL SUB-STATION - BIJULIBARI Equipment: HT Panel, Transformers, LT panel) Page no. 12 of 17 11 KV ELECTRICAL SUB-STATION - SWITCH-ROOM 3 Equipment: HT Panel, Transformers, LT panel) Page no. 12 of 17 11 KV ELECTRICAL SUBSTATION - TINGRI Equipment: HT Panel, Transformers, LT panel) Page no. 11 of 15	Clause 5. LT Panel Sub clause 6. Outgoing Feeder Each outgoing feeder with MCCB shall consist of:	Clause 5. LT Panel Sub clause 6. Outgoing Feeder Each outgoing feeder with MCCB shall consist of **(VII) Rotary Handle shall be provided for operating the MCCBs of the outgoing feeders.**
16	SOQ Part II SCHEDULE OF WORK 11 kV electrical substation-21near DD Item No 6 Cable Page No. 13 of 17 of SOQ PART-II	(I) (b) Supply and laying of 1x240Sqmm, (UE), 11KV, copper conductor, armoured cable to be laid in pucca trench inside the substation where trench shall be filled with sand. This cable shall be used from HT panel to HT side of transformer. Quantity=100 Mtrs	**Quantity=300 Mtrs approx.**

17	SOQ Part II SCHEDULE OF WORK (11 kV electrical substation-21near DD) Item No 6 Cable Page No. 13 of 17 of SOQ PART-II	(III) Supply and laying 4core, 240sqmm. XLPE insulated, armoured, copper conductor, power cable of grade exceeding 1.1 KV. This cable shall be laid in pucca trench inside the substation where sand shall be filled in the trench. This cable shall be used for connection of LT side of transformer to LT panel. Quantity=200 Mtrs	**Quantity=360 Mtrs approx.**
18	SOQ Part II SCHEDULE OF WORK (11 kV electrical substation-Switchroom-3) Item No 6 Cable Page No. 13 of 17 of SOQ PART-II	(III) Supply and laying 4core, 240sqmm. XLPE insulated, armoured, copper conductor, power cable of grade exceeding 1.1 KV. This cable shall be laid in pucca trench inside the substation where sand shall be filled in the trench. This cable shall be used for connection of LT side of transformer to LT panel. Quantity=240 Mtrs	**Quantity=400 Mtrs approx.**
19	SOQ Part II SCHEDULE OF WORK: 11 KV ELECTRICAL SUB-STATION - SWITCH-ROOM 3 Equipment: HT Panel, Transformers, LT panel) Clause 3, Page no. 7 of 17	**Battery bank and charger** Supply, installation, testing & commissioning of sealed maintenance free (SMF) lead acid battery with charger required for supply of continuous 24 Volt DC output voltage for closing/ tripping/indication circuit of 6 nos. 12KV, VCB panel board. Battery with charger consists of 12 Nos. 2.0 Volts basic cell in modular design, maintenance free batteries of 200 AH each and charging unit of 20 Amps rating of rectifier with input voltage 200 to 250V AC, 50HZ, and output rated DC voltage 24 Volt, 20amps. Incomer to battery charger shall have single phase supply with 20 Amps DP MCB with overload, short circuit protection along with a digital Ammeter & Voltmeter required for showing output voltage and current. Suitable rating of FRLS insulated copper conductor cable shall be used for wiring. The above arrangement is to be fixed in self stackable MS trays with insulated shoe. The battery charger shall have float and boost charger facility.	**Battery bank and charger** Supply, installation, testing & commissioning of sealed maintenance free (SMF) lead acid battery with charger required for supply of continuous 24 Volt DC output voltage for closing/ tripping/indication circuit of **7** Nos. 12KV, VCB panel board. Battery with charger consists of 12 Nos. 2.0 Volts basic cell in modular design, maintenance free batteries of 200 AH each and charging unit of 20 Amps rating of rectifier with input voltage 200 to 250V AC, 50HZ, and output rated DC voltage 24 Volt, 20amps. Incomer to battery charger shall have single phase supply with 20 Amps DP MCB with overload, short circuit protection along with a digital Ammeter & Voltmeter required for showing output voltage and current. Suitable rating of FRLS insulated copper conductor cable shall be used for wiring. The above arrangement is to be fixed in self stackable MS trays with insulated shoe. The battery charger shall have float and boost charger facility. This includes supply and laying of 3 core, 16sqmm,

		This includes supply and laying of 3 core, 16sqmm, armoured, PVC insulated, PVC sheathed, aluminium conductor, 1.1KV grade cable to laid in pucca trench from LT panel to Battery charger panel – 25 mtrs	armoured, PVC insulated, PVC sheathed, aluminium conductor, 1.1KV grade cable to laid in pucca trench from LT panel to Battery charger panel – 25 mtrs approx.
20	SCC PART III CIVIL PART Clause F, Payment Schedule Sl. No. 2 Page no. 16 of 72	"On completion of structural work (RCC including concrete & reinforcement in columns, beams, slabs, chajja,"	"On completion of structural work (RCC including concrete & reinforcement in columns, beams, slabs, chajja, **projections etc.**)".
21	SOQ Part-II, SCHEDULE OF WORK: 11 KV ELECTRICAL SUB-STATION – 21 near DD Page no. 16 of 17 11 KV ELECTRICAL SUB-STATION - BIJULIBARI Page no. 15 of 17 11 KV ELECTRICAL SUB-STATION - SWITCH-ROOM 3 Page no. 15 of 17 11 KV ELECTRICAL SUBSTATION - TINGRI Page no. 14 of 15	Clause 9. Safety Equipment Clause (i) Providing & fixing danger plates made of mild steel at least 2mm thick & vitreous enamelled white on both sides & with inscriptions in signal red colour on front side as read in triangular languages	Clause 9. Safety Equipment Clause (i) Providing & fixing danger plates made of mild steel at least 2mm thick & vitreous enamelled white on both sides & with inscriptions and signal in red colour on front side in **trilingual (English, Hindi & Assamese).**