ADDENDUM 1 TO E-TENDER SGI7516P16

Design, Manufacture/Assemble, Installation and Commissioning of Auto Generator Control & Distribution Panels as replacement of existing 25 KVA DG Sets at Repeater Stations of OIL in Assam, West Bengal & Bihar.

The supplier shall supply mandatory & critical spares for panels for at least two years after warranty along with the panel.

Auto Generator Control Panel:

1. Operation philosophy of the supplied panels shall be same or equivalent as existing ones. Bidder shall study our existing system carefully during bidding & execution.
2. The panels shall have Multifunctional relay or group of relays and accessories to accomplish **at least** the following features:

   (a). Auto/Manual start/off of the set.
   (b).Fault Detection & initiation of shut down during operation for crank/start failure , High Engine Temperature Fault, High lub-oil temperature Fault, Low lub oil pressure Fault, voltage out of band and frequency out of band faults. Alarm indications and events logging systems shall be part of the design.

3. In-built Battery Charger with Auto/Manual Boost/Float charging feature should be incorporated to the charge the DG Set Battery. Output D.C voltage and current indicating instruments are to be provided.
4. The panels shall be fitted with Analog Voltmeter & Ammeter with selector switches, Built-in Transducer type Analog Power Meter & Power Factor Meter, Running Hour Meter, Electronic LED Frequency Meter, Electronic Static watt-hour Meter with LED Display and other operating & alarm/fault indicating display.
5. Suitable 4 pole MCCB with Adjustable Thermal-Magnet Release along with Switch-Disconnector Fuses of suitable rating & type shall be provided in the panel as incomer for the Power Cable . The outgoing power from the GCP shall be routed to Distribution Panel Bus Bar through Suitable Power Contactor to facilitate Auto/Manual changeover as in Diagram-2. Electrical & mechanical interlocking as shown in the schematic shall be provided along with suitable Switch Fuse Unit incomers(3 numbers) in DB Panel. Power cable shall be of suitable size PVC armoured type with ISI mark & 1100 volt grade.
6. All the control & power interconnection wirings shall be done with copper flexible PVC wires (ISI Marked & 1100 volt grade) with accepted colour codes.
7. The panel board must be built by M.S Sheet of suitable gauge, floor mounted type, IP-44 ,with load bearing member, doors, partitions, covers, equipment

mounting plate & removable gland plate, painted with texture finish electro-static paint (Powder Coating) with paint thickness 80(+)(-)20 microns.

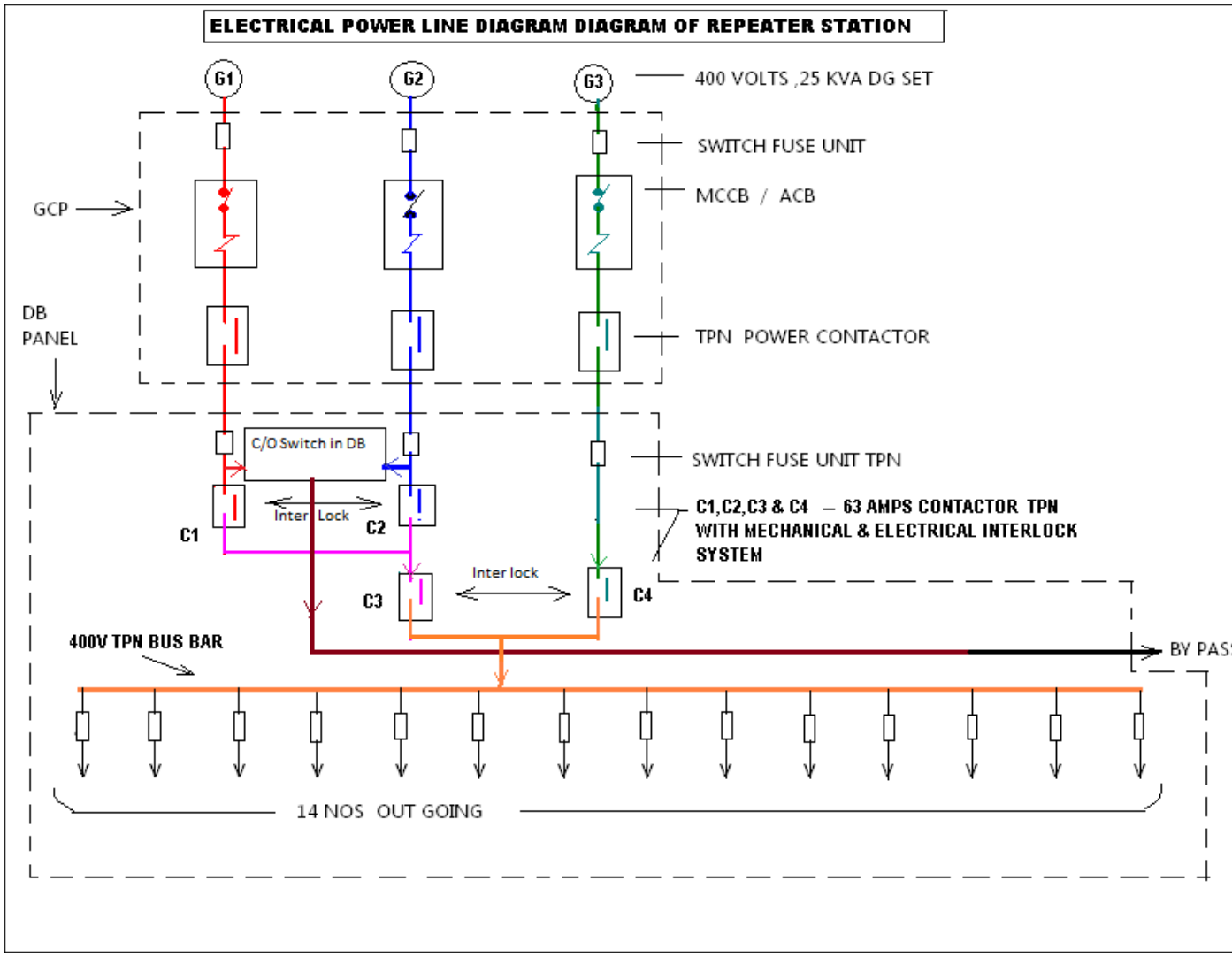
8. The panels shall be earthed as per standard practice. All doors shall have earthing with main frame through copper braided wires.
9. The test certificate as per IS-8623 Part-1, 1993 & IS 13947(Part-1), 1993 for the individual panel shall be submitted with the panel along with test certificates of individual components of panel as applicable.

Distribution Panel:

1. Design, manufacture, supply, installation & commissioning of Distribution Panels as replacement of existing ones shall be in the bidder scope. All control & interconnecting cables shall be flexible PVC copper wire with ISI mark & 1100V grade.
2. The panel board should house the following:

   (a). Electrical & mechanical interlocked TPN Power Contactors as shown in the Diagram-2.
   (b). TPN Copper Bus Bars of suitable size & mountings with connections & spare 3 blank holes in each bus.
   ©. Three 63 Amp TPN Switch Disconnector Fuse units as Incomers for DB Panel Board..
   (d). 32 Amp TPN MCB- 4 nos. – outgoing.
   (e). 10 Amp TPN MCB- 6 nos. – outgoing.
   (f). 4 Amp TPN MCB - 4 nos. – outgoing.
   (g). Four nos.Empty partitions dimension not less than 30cmx20cm with door and Two LED indication lamp in each partition (colour Red & green) and blank power & control terminal block inside .
   (h). LED Phase Indication – 3 nos.
   i)One smart Meter to be provided to facilitate recording Total KWH consumption & reading bus voltage,current,power etc.

3. Construction, testing etc. and earthing shall be same as Generator Control Panels.


ELECTRICAL POWER LINE DIAGRAM DIAGRAM OF REPEATER STATION
G1
G2
G3
400 VOLTS ,25 KVA DG SET
SWITCH FUSE UNIT
MCCB / ACB
GCP
DB
PANEL
TPN POWER CONTACTOR
C/O Switch in DB
SWITCH FUSE UNIT TPN
C1,C2,C3 & C4 – 63 AMPS CONTACTOR TPN
WITH MECHANICAL & ELECTRICAL INTERLOCK
SYSTEM
C1
Inter Lock
C2
Inter lock
C3
C4
400V TPN BUS BAR
BY PAS
14 NOS OUT GOING

DIAGRAM