

Project - TSGENCO-400kV Switchyard at Kothagudem TPS

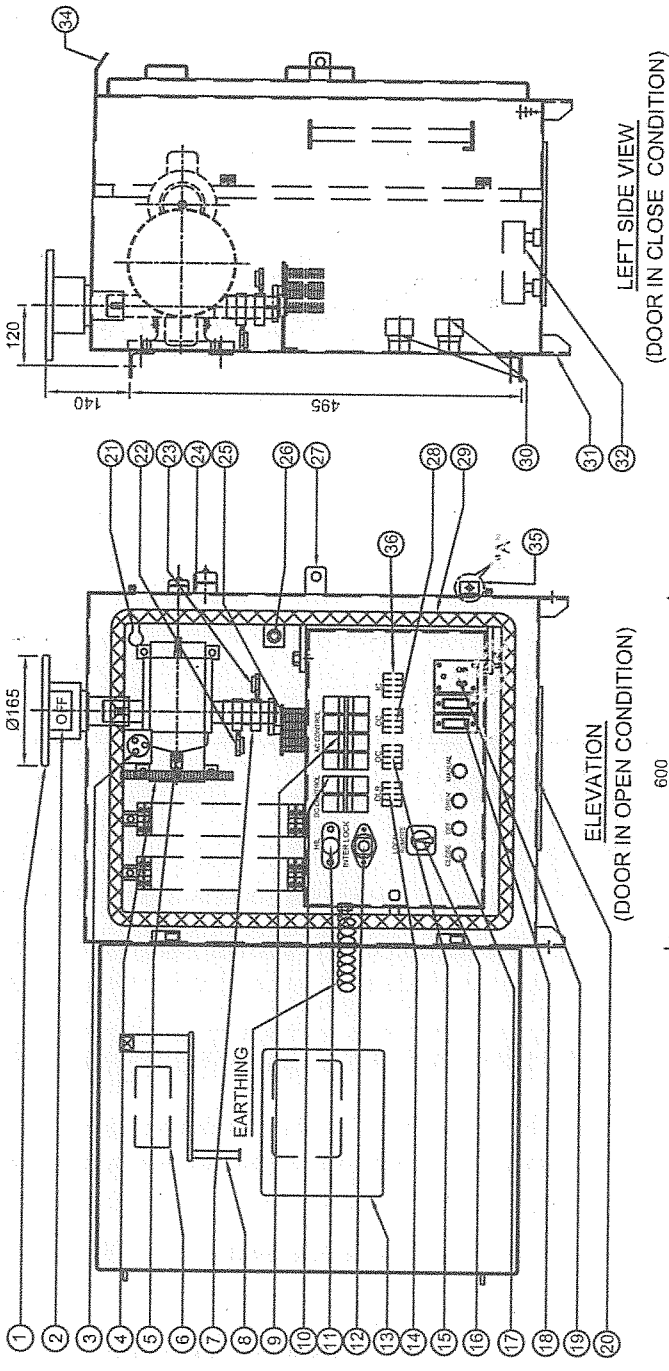
S.No.	Item Description	Unit	Total Qty	Remarks
1	400kV Isolator MOM Box: AC Control Switch (4 Pole MCB)	Nos	4	as per Part No. 9 of Drg No. 4. HMS 2280 05, Rev.D
2	400kV Isolator MOM Box: DC Control Switch (2 Pole MCB)	Nos	4	as per Part No. 10 of Drg No. 4. HMS 2280 05, Rev.D
3	400kV Isolator MOM Box: Opening Contactor (OC)	Nos	4	as per Part No. 15 of Drg No. 4. HMS 2280 05, Rev.D
4	400kV Isolator MOM Box: Closing Contactor (CC)	Nos	4	as per Part No. 28 of Drg No. 4. HMS 2280 05, Rev.D
5	400kV Isolator MOM Box: Over Load Relay cum single phase preventor (OLR)	Nos	4	as per Part No. 14 of Drg No. 4. HMS 2280 05, Rev.D
6	400kV Isolator MOM Box: Interlocking Contactor (IC)	Nos	4	as per Part No. 36 of Drg No. 4. HMS 2280 05, Rev.D
7	400kV Isolator MOM Box: Push Button Set	Set	1	as per Part No. 17 of Drg No. 4. HMS 2280 05, Rev.D
8	400kV Isolator MOM Box: Motor & Gear Box	Nos	1	as per Part No. 4 & 5 of Drg No. 4. HMS 2280 05, Rev.D (1 no each)
9	400kV Isolator MOM Box: Detachable Cable Glands Fixing Plate	Nos	1	as per Part No. 20 of Drg No. 4. HMS 2280 05, Rev.D
10	400kV Isolator MOM Box: Limit Switch (LSO)	Nos	1	as per Part No. 22 of Drg No. 4. HMS 2280 05, Rev.D
11	400kV Isolator MOM Box: Limit Switch (LSC)	Nos	1	as per Part No. 23 of Drg No. 4. HMS 2280 05, Rev.D
12	400kV Isolator MOM Box: Door Operated Light Switch (LS)	Nos	10	as per Part No. 26 of Drg No. 4. HMS 2280 05, Rev.D
13	400kV Isolator MOM Box: Side Caps	Nos	9	as per Drg No. 4. HMS 2280 05, Rev.D
14	400kV Isolator MOM Box: Thermostat	Nos	9	as per Part No. 3 of Drg No. 4. HMS 2280 05, Rev.D
15	400kV Isolator MOM Box: Rubber Gasket (EPDM)	Nos	1	as per Part No. 29 of Drg No. 4. HMS 2280 05, Rev.D
16	400kV Isolator E/s MOM Box: AC Control Switch (4 Pole MCB)	Nos	5	as per Part No. 9 of Drg No. 4. HES 2280 07, Rev.C
17	400kV Isolator E/s MOM Box: DC Control Switch (2 Pole MCB)	Nos	5	as per Part No. 10 of Drg No. 4. HES 2280 07, Rev.C
18	400kV Isolator E/s MOM Box: Opening Contactor (OC)	Nos	5	as per Part No. 15 of Drg No. 4. HES 2280 07, Rev.C
19	400kV Isolator E/s MOM Box: Closing Contactor (CC)	Nos	5	as per Part No. 16 of Drg No. 4. HES 2280 07, Rev.C
20	400kV Isolator E/s MOM Box: Over Load Relay cum single phase preventor (OLR)	Nos	5	as per Part No. 14 of Drg No. 4. HES 2280 07, Rev.C
21	400kV Isolator E/s MOM Box: Terminal Block	Nos	3	as per Part No. 29 of Drg No. 4. HES 2280 07, Rev.C
22	400kV Isolator E/s MOM Box: Detachable Cable Glands Fixing Plate	Nos	1	as per Part No. 20 of Drg No. 4. HES 2280 07, Rev.C
23	400kV Isolator E/s MOM Box: Motor & Gear Box	Nos	2	as per Part No. 4 & 5 of Drg No. 4. HES 2280 07, Rev.C (2 no each)
24	400kV Isolator E/s MOM Box: Limit Switch (LSO)	Nos	1	as per Part No. 22 of Drg No. 4. HES 2280 07, Rev.C
25	400kV Isolator E/s MOM Box: Limit Switch (LSC)	Nos	1	as per Part No. 23 of Drg No. 4. HES 2280 07, Rev.C
26	400kV Isolator E/s MOM Box: Cubicle Lamp Holder	Nos	2	as per Part No. 21 of Drg No. 4. HES 2280 07, Rev.C

PART LIST:

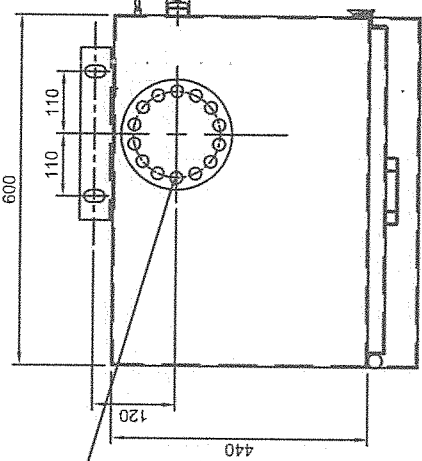
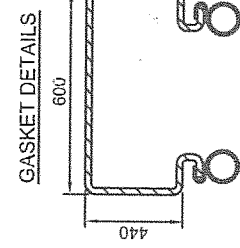
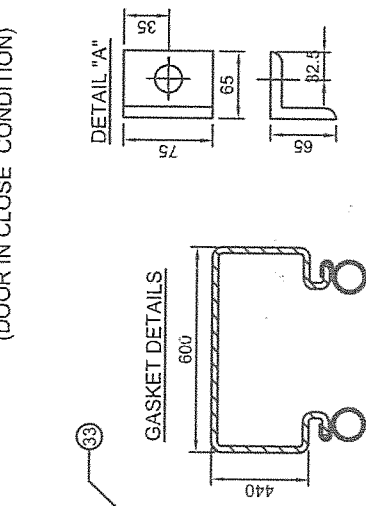
1. OUTPUT FLANGE (10 mm THICK, 14 HOLES)
2. ON/OFF INDICATOR
3. THERMOSTAT (30 TO 85°C RECOMMENDED SETTING 40°)
4. GEAR BOX (SPUR / WORM & WORM SHAFT, RATIO 1 : 630)
5. MOTOR (Ø3. 415 Volts, 1.0 HP MOTOR)
6. CAUTION NAME PLATE
7. LIMIT SWITCH OPERATING CAM
8. OPERATING HANDLE
9. AC CONTROL SWITCH (4 POLE MCB)
10. DC CONTROL SWITCH (2 POLE MCB)
11. PUSH CAP (FOR HIL)
12. HANDLE INTERLOCK (HIL)
13. SCHEMATIC DIAGRAM PLATE
14. OVER LOAD RELAY CUM SINGLE PHASE PREVENTOR (OLR)
15. OPENING CONTACTOR (OC)
16. LOCAL/REMOTE SELECTOR SWITCH(S3, CAM TYPE)
17. OPEN / CLOSE / MANUAL / OFF PUSH BUTTON (PBC / PBC / PBH / EPB)
18. HEATER / POWER SOCKET SWITCHES (HS, PSS)
19. POWER SOCKET (PS)
20. DETACHABLE CABLE GLANDS FIXING PLATE (WITH OUT GLANDS)
21. CUBICLE LAMP HOLDER
22. LIMIT SWITCH (LSC)
23. LIMIT SWITCH (LSC)
24. CUBICLE WITH DOOR (2 mm THICK MS SHEET)
25. AUX. SWITCH (14 NO / 14 NC + (2NO / 2 NC) MBB)
26. DOOR OPERATED LIGHT SWITCH (LS)
27. PROVISION FOR PAD LOCK
28. CLOSING CONTACTOR (CC)
29. RUBBER GASKET (EPDM)
30. TERMINAL BLOCK (STUD TYPE OF ELMEX OR ITS EQUIVALENT)
31. SUPPORT CLEATS (MS WELDED TO BOX)
32. HEATER, 80 WATTS, 240 V
33. MANUAL OPERATING CAP / COVER
34. RAIN SHADE
35. EARTHING TERMINAL 2 Nos. WELDED TO BOX(SUITABLE FOR 75 x 10 GI FLAT) WITH M10 X40 BOLT WITH CHECKNUT & WASHER
36. INTERLOCKING CONTACTOR, 9A

NOTE:

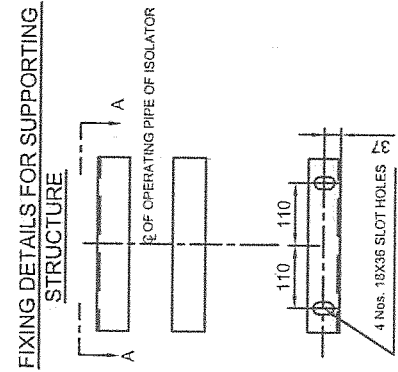
1. ALL DIMENSIONS ARE IN MILLIMETERS
2. CUBICLE WILL BE POWDER COATED WITH SHADE : 631 OF IS : 5
3. GLOSSY WHITE FOR INSIDE
4. DEGREE OF PROTECTION IP : 55 AS PER IS : 13947
5. 20% SPARE TERMINALS WILL BE PROVIDED
6. WIRING WILL BE DONE WITH 1100 V. GRADE
7. a) FOR POWER CIRCUIT (AC SUPPLY) : 2.5 Sq.MM Cu. STRANDED, AND TERMINALS SUITABLE FOR 6 Sq.MM AL CONDUCTOR
8. b) FOR AUXILIARY CIRCUIT (DC SUPPLY) : 2.5 Sq.MM Cu. STRANDED P.V.C. INSULATED CONDUCTOR
9. c) WEIGHT OF THE BOX : 100 Kg (Approx)
10. d) LUBRICATION OF GEARS : NON-HARDENED GREASE FILLED GEAR BOX



LEFT SIDE VIEW (DOOR IN CLOSE CONDITION)



14 Nos. Ø18 HOLES ON 127 P.C.D.



REV	NO.	DATE	DESCRIPTION
D	1	13/07/2016	As per customer comments
C	1	05/12/2015	As per customer comments
B	1	13/12/2014	As per customer comments
A	1	21/10/2014	As per customer comments

REVISIONS

TITLE: MOTOR OPERATING MECHANISM FOR 400 KV ISOLATOR

SCALE: N.T.S.

DATE: 05-10-2015

DRAWN: [Signature]

CHECKED: [Signature]

APPROVED: [Signature]

BRG.NO: [Blank]

REV: [Blank]

4. HMS 2280 05

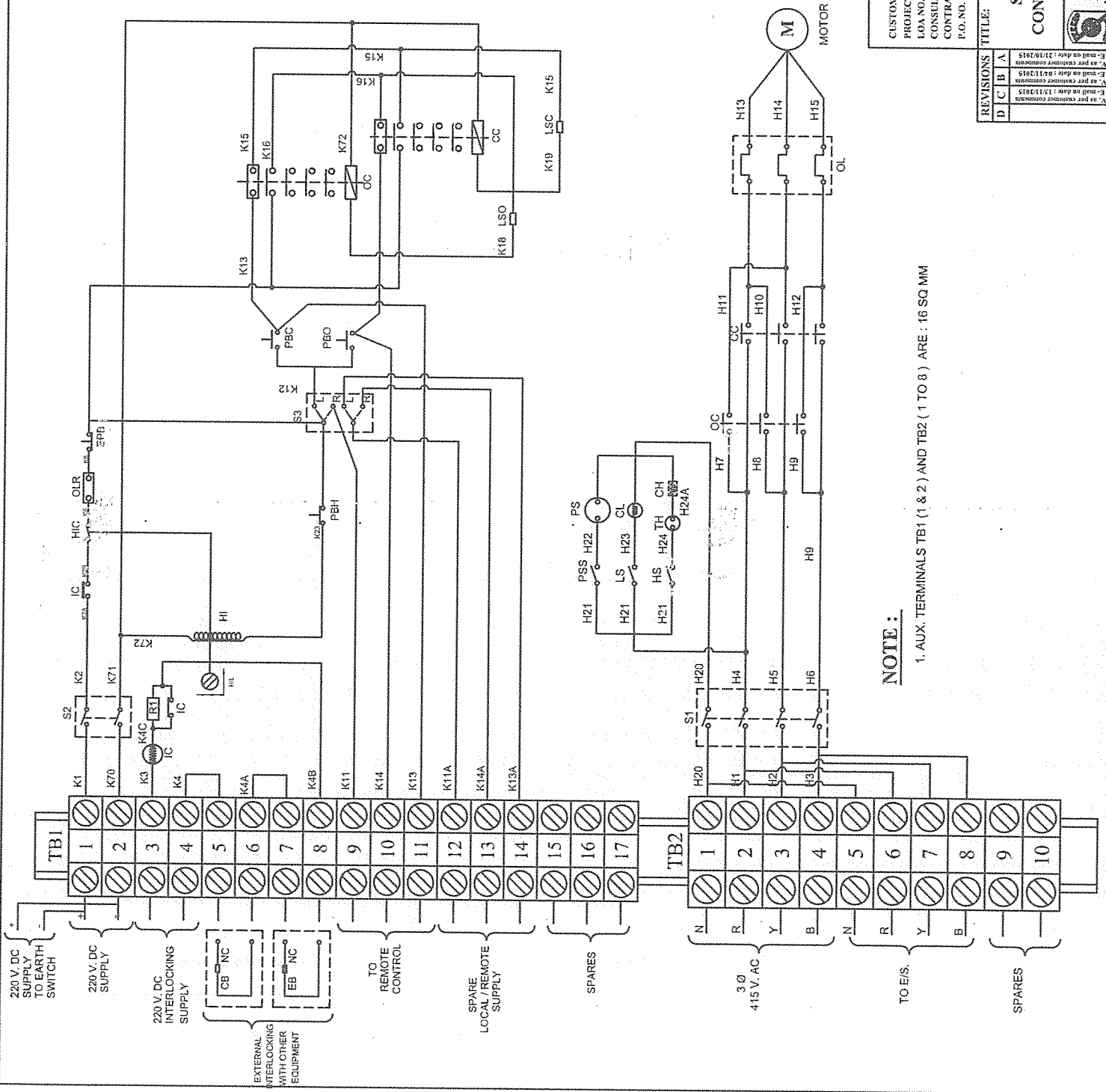
CUSTOMER : M/s. TELANGANA STATE POWER GENERATION CORPORATION LTD
PROJECT : 400 KV SWITCHYARD AT 1 x 800 MW KOTHAGUDEM TPS, STAGE - VII, UNIT#12
LOA NO. : CEE/11/KTPS-VIII(X.800 MW)/DND/180/14 DATE:27/12/2014
CONSULTANT : M/s. DEVELOPMENT CONSULTANTS PRIVATE LIMITED
CONTRACTOR : M/s. BHARAT HEAVY ELECTRICALS LIMITED
P.O. NO. : 155 P 122 Date : 30 - 09 - 2015

GR POWER SWITCHGEAR LTD.,
JEEDIMETLA HYDRABAD-500 055 INDIA

LEGEND	DESCRIPTION	MAKE
HIC	HANDLE INTERLOCK CONTACT	SWITRON/RECOM/IMANI
M	MOTOR 3Ø 415 V, 1.0 HP	REMI/ELECN/HEMAL
CH	CUBICLE HEATER 80 WATTS	KONTACT/RAMANA ELECT.
S1	A.C. SUPPLY CONTROL SWITCH, 16 A MCB	C&S/SIEMENS/CHINT
S2	D.C. SUPPLY CONTROL SWITCH, 10 A MCB	C&S/SIEMENS/CHINT
S3	LOCAL/REMOTE SELECTOR SWITCH 16 A	C&S/SIEMENS/CHINT/KAYCE
OC,CC	OPEN/CLOSE CONTACTORS, 9 A	C&S/SIEMENS/CHINT
OL	OVER LOAD RELAY WITH SPP 1.6 TO 2.5 A	C&S/SIEMENS/CHINT
PBO,PBC	OPEN/CLOSE PUSH BUTTONS, 4 A	C&S/CHINT/VIISHNO/JAI BALA
LSQ,LSC	OPEN/CLOSE LIMIT SWITCHES, 6 A	JAI BALAJIMANI
PBH	MANUAL HANDLE PUSH BUTTONS, 4 A	C&S/CHINT/VIISHNO/JAI BALA
EPB	EMERGENCY PUSH BUTTON, 4 A	C&S/CHINT/VIISHNO/JAI BALA
HI	HANDLE INTERLOCK COIL, 20 WATTS	SELMECH/GRPS
HIL	MANUAL HANDLE KEY INTERLOCK	PS/IEE
LS PSS HS	LIGHT, SOCKET, HEATER SWITCHES, 5A	MARU OR ITS EQUIVALENT
CL	CUBICLE LAMP HOLDER	MARU OR ITS EQUIVALENT
PS	POWER SOCKET, 5A	MARU OR ITS EQUIVALENT
TB	TERMINAL BLOCKS (STUD TYPE)	ELMEX/CONNECTWELL/VINMI
TH	THERMOSTAT	BESL
IC	INTERLOCKING CONTACTOR, 9A, 220 V, 7W	C&S/SIEMENS/CHINT

OPERATING INSTRUCTIONS:

- DON'T OPERATE THE ISOLATOR WHEN THE 'CIRCUIT BREAKER' IS IN 'ON'
- ISOLATOR OPERATION IS POSSIBLE ONLY WHEN THE INTERLOCK CONDITIONS ARE SATISFIED.
- FOR MANUAL OPERATION FOLLOW THE FOLLOWING INSTRUCTIONS:-
 - BY PRESSING THE PUSH BUTTON (PBH) REMOVE THE CASTLE KEY AND KEEP THE KEY IN HANDLE LOCK AND ROTATE FOR GETTING WAY TO INSERT THE OPERATING HANDLE.
 - INSERT THE OPERATING HANDLE AND ROTATE IN CLOCK / ANTI CLOCK WISE DIRECTIONS FOR TO OPEN / CLOSE THE ISOLATOR.
 - IF MANUAL OPERATION IS NOT NEEDED RESTORE THE CASTLE KEY IN THE HANDLE INTERLOCK AND ROTATE.



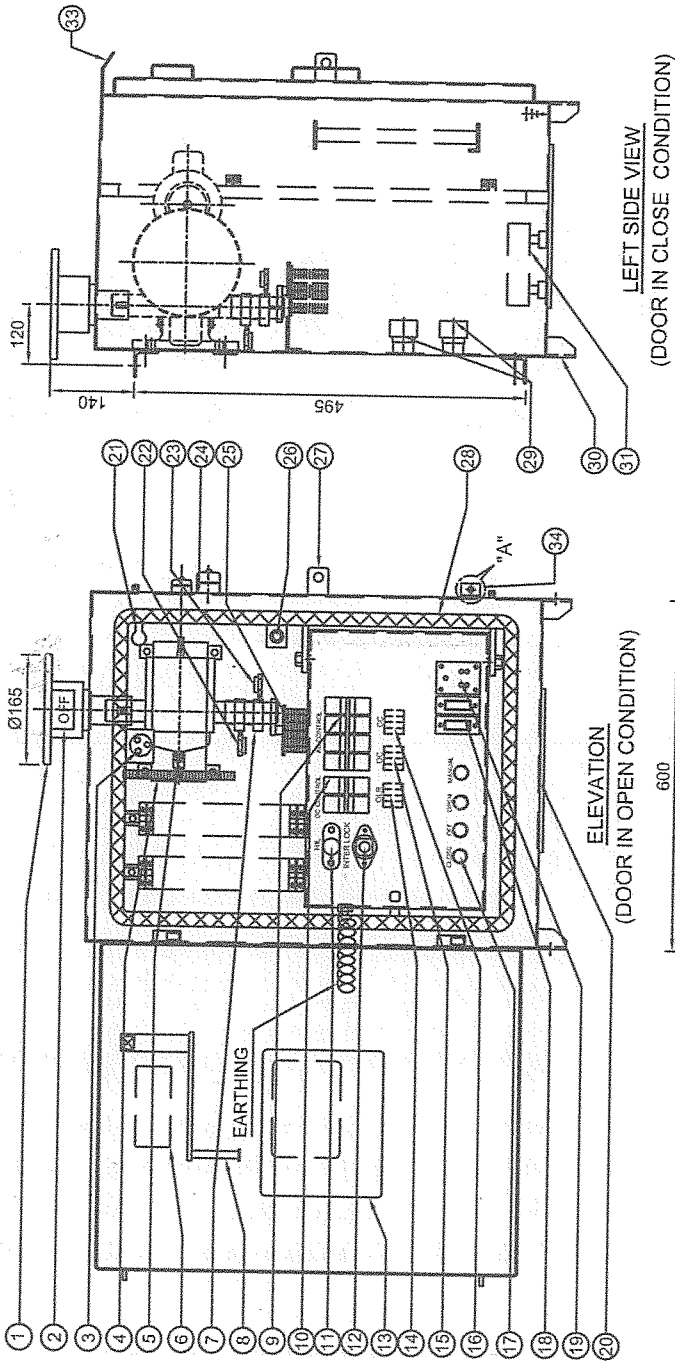
NOTE:

1. AUX. TERMINALS TB1 (1 & 2) AND TB2 (1 TO 8) ARE : 16 SQ MM

CUSTOMER : M/s. TELANGANA STATE POWER GENERATION CORPORATION LTD
 PROJECT : 400 KV SWITCHYARD AT 1 x 800 MW KOTHAGUDEM TPS, STAGE-VII, UNIT#12
 LOA NO. : CEE/11/KT/PS-VII(1 x 800 MW) / D.NO.150/14 DATE: 27/12/2014
 CONSULTANT : M/s. DEVELOPMENT CONSULTANTS PRIVATE LIMITED
 CONTRACTOR : M/s. BHARAT HEAVY ELECTRICALS LIMITED
 P.O.NO. : 155 P 1 2 2 Date : 30-09-2015

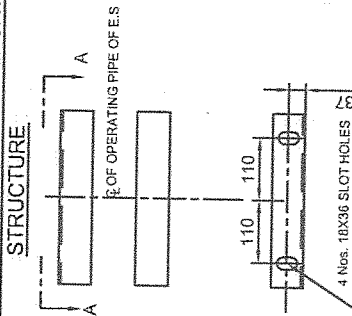
REVISIONS		TITLE:	
D	C	SCHEMATIC DIAGRAM FOR MOTOR CONTROL PANEL (FOR 400 KV ISOLATOR)	
B	A	SCALE: N.T.S	DATE: 05-10-2015
A		DRAWN: [Signature]	CHECKED: [Signature]
		APPROVED: [Signature]	DRG.NO: [Signature]
			REV: [Signature]
			4. HMS 2280 06

GR POWER SWITCHGEAR LTD.,
 JEEDIMETLA HYDERABAD-500 055 INDIA

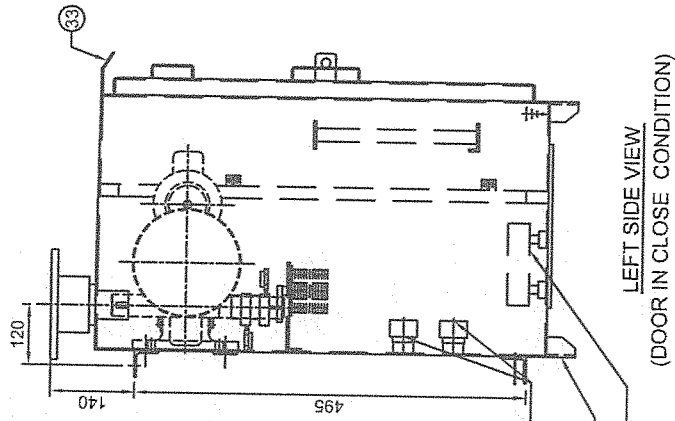


14 Nos. Ø18 HOLES ON 127 P.C.D.

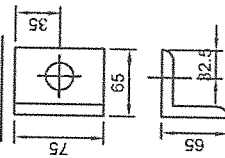
FIXING DETAILS FOR SUPPORTING STRUCTURE



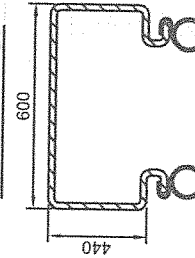
LEFT SIDE VIEW (DOOR IN CLOSE CONDITION)



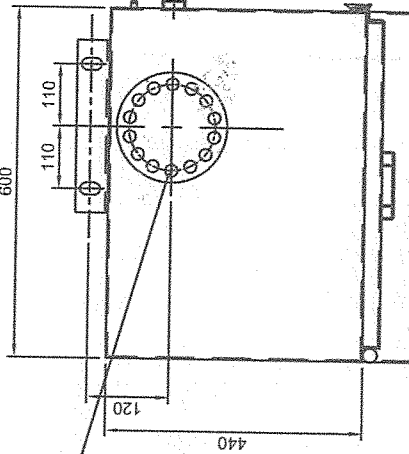
DETAIL "A"



GASKET DETAILS



PLAN



PART LIST:

1. OUTPUT FLANGE (10 mm THICK, 14 HOLES)
2. ON/OFF INDICATOR
3. THERMOSTAT (30 TO 85°C RECOMMENDED SETTING 40°)
4. GEAR BOX (SPUR / WORM & WORM SHAFT, RATIO 1 : 630)
5. MOTOR (Ø3.415 Volts, 1.0 HP MOTOR)
6. CAUTION NAME PLATE
7. LIMIT SWITCH OPERATING CAM
8. OPERATING HANDLE
9. AC CONTROL SWITCH (4 POLE MCB)
10. DC CONTROL SWITCH (2 POLE MCB)
11. PUSH CAP (FOR HIL)
12. HANDLE INTERLOCK (HIL)
13. SCHEMATIC DIAGRAM PLATE
14. OVER LOAD RELAY CUM SINGLE PHASE PREVENTOR (OLR)
15. OPENING CONTACTOR (OC)
16. CLOSING CONTACTOR (CC)
17. OPEN / CLOSE / MANUAL / OFF PUSH BUTTON (PBO / PBC / PBH / EPB)
18. HEATER / POWER SOCKET SWITCHES (HS, PSS)
19. POWER SOCKET (PS)
20. DETACHABLE CABLE GLANDS FIXING PLATE (WITH OUT GLANDS)
21. CUBICLE LAMP HOLDER
22. LIMIT SWITCH (LSO)
23. LIMIT SWITCH (LSC)
24. CUBICLE WITH DOOR (2 mm THICK MS SHEET)
25. AUX. SWITCH (14 NO / 14 NC)
26. DOOR OPERATED LIGHT SWITCH (LS)
27. PROVISION FOR PAD LOCK
28. RUBBER GASKET (EPDM)
29. TERMINAL BLOCK (STUD TYPE OF ELMEX OR ITS EQUIVALENT)
30. SUPPORT CLEATS (MS WELDED TO BOX)
31. HEATER, 80 WATTS, 240 V
32. MANUAL OPERATING CAP / COVER
33. RAIN SHADE
34. EARTHING TERMINAL 2 Nos. WELDED TO BOX (SUITABLE FOR 75 x 10 GI FLAT) WITH M10 X40 BOLT WITH CHECKNUT & WASHER

NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETERS
2. CUBICLE WILL BE POWDER COATED WITH SHADE : 831 OF IS : 5 GLOSSY WHITE FOR INSIDE
3. DEGREE OF PROTECTION IP : 55 AS PER IS : 13947
4. 20% SPARE TERMINALS WILL BE PROVIDED
5. WIRING WILL BE DONE WITH 1100 V. GRADE
 - a) FOR POWER CIRCUIT (AC SUPPLY) : 2.5 Sq.MM Cu. STRANDED, AND TERMINALS SUITABLE FOR 6 Sq.MM AL CONDUCTOR
 - b) FOR AUXILIARY CIRCUIT (DC SUPPLY) : 2.5 Sq.MM Cu. STRANDED P.V.C. INSULATED CONDUCTOR
6. WEIGHT OF THE BOX : 100 Kg (Approx.)
7. LUBRICATION OF GEARS : NON HARDENED GREASE FILLED GEAR BOX

CUSTOMER : M/s. TELANGANA STATE POWER GENERATION CORPORATION LTD
PROJECT : 400 KV SWITCHYARD AT 1 x 800 MW KOTHAGUDEM TPS, STAGE-VII, UNIT#12
LOA NO. : CEE/111/KT/PS-VIII/1 x 800 MW / D.NO.150/14. DATE: 27/12/2014
CONSULTANT : M/s. DEVELOPMENT CONSULTANTS PRIVATE LIMITED
CONTRACTOR : M/s. BHARAT HEAVY ELECTRICALS LIMITED
P.O. NO. : 155 P 122 **Date :** 30-09-2015

TITLE: MOTOR OPERATING MECHANISM FOR 400 KV EARTH SWITCH

SCALE: N.T.S.

DATE: 05-10-2015

DRAWN: [Signature]

CHECKED: [Signature]

APPROVED: [Signature]

DRG. NO.: 4. HES 2280 07

REV: [Signature]

GR POWER SWITCHGEAR LTD.,
 JEEDIMETLA HYDERABAD-500 055 INDIA

REVISIONS	D	C	B	A
REV. as per customer comments				
REV. as per customer comments				
REV. as per customer comments				
REV. as per customer comments				

