



H1- PUSH BUTTON	:	RUNNING	:	GREEN
H2- PUSH BUTTON	:	STOPPED	:	STOP
H3- PUSH BUTTON	:	TEST	:	BLACK
H4- STAY PUT TYPE	:	EMERGENCY	:	STOP
PUSH BUTTON				
S1 - INDICATION LAMP	:	RUNNING	:	RED
S2 - INDICATION LAMP	:	STOPPED	:	GREEN
S3 - INDICATION LAMP	:	TRIPPED	:	YELLOW
T.CT- TORODIAL CT				
ELR- EARTH FAULT				
LEAKAGE RELAY				

1- DEVELOPED SINGLE LINE DIAGRAM IS BASED ON FEED ENGINEERING & DETAILS ILLUSTRATED HEREIN ARE MINIMUM REQUIRED. EPCO CONTRACTOR SHALL ENHANCE ALL OF THESE REQUIREMENTS AND SHALL DEVELOP THEIR OWN SINGLE LINE DIAGRAM CONSIDERING ALL THE REQUIREMENTS OF DETAIL ENGINEERING EVEN NOT EXPLICITLY MENTIONED HEREIN BUT REQUIRED FOR THE INTENDED OBJECTIVE OF THE SUBJECT PROJECT SHALL BE INCLUDED AND PART OF EPCO SCOP OF WORK.

2- VENDOR/MANUFACTURER SHALL DEVELOP/PROVIDE DETAIL DOCUMENTS OF RESPECTIVE SWITCHGEAR/MCC I.E. COMPONENT LIST, SCHEMATICS, SINGLE DIAGRAM, MAIN AND INTERNAL CABLE TERMINATION DRAWINGS TO BE SUBMITTED FOR M/S OGDCL REVIEW AND APPROVAL.

3- AS THE INTEND OF THIS SINGLE LINE DIAGRAM IS BASED ON FEED ENGINEERING AND DETAIL ENGINEERING OF ALL PACKAGES/EQUIPMENT IS YET TO BE FINALIZED, THEREFORE, ANY COMPONENT, MODIFICATION WORK OR ADDITIONAL FEEDERS/STARTERS/COMPONENTS OR ELSE THAT WOULD BE NEEDED FOR THE PROJECT, HOWEVER, NOT EXPLICITLY MENTIONED IN THIS SINGLE LINE BUT REQUIRED FOR THE INTENDED OBJECTIVE OF THE SUBJECT PROJECT, SHALL BE PROVIDED BY EPCO CONTRACTOR WITHOUT ANY ADDITIONAL COST AND TIME.

4- POWER SUPPLY FOR THE NEW SWITCHGEAR/MCC (BUS-B) AS ILLUSTRATED ON TO THIS SHEET SHALL BE SUPPLIED FROM EXISTING SWITCHGEAR/MCC (103-MCC-05) THRU POWER CABLES. FREE SPACE CUBICAL AVAILABLE IN PANEL#1 (BUS-A) SHALL BE UTILIZED FOR SAID PURPOSE AND ALL THE MODIFICATION AS REQUIRED I.E. INSTALLATION OF NEW 4P, 400A MCCB, ALONG WITH METERING & PROTECTIVE DEVICES AND AUTOMATIC STARTING OF THIS PROPPERS IN CASE OF INCOMING SIDE OF MCCB, AS REQUIRED TO ACHIEVE THE INTENDED OBJECTIVE SHALL BE PROVIDED BY THE VENDOR. SWITCHGEAR/MCC VENDOR SHALL SELECT THE MCCB MODEL OF 400A OF SUCH DIMENSION THAT CAN BE ADJUSTED IN ALLOCATED FREE SPACE CUBICAL WITHOUT JEOPARDIZING EXISTING SYSTEM SAFETY AND INTEGRITY. PLEASE REFER EXISTING DRAWING ATTACHED WITH TENDER DOCUMENTS FOR FURTHER INFORMATION. EXISTING VENDOR DETAILS ARE AS FOLLOWS;
MAKE- SIEMENS PAKISTAN
MODEL TYPE - SNAON 8PT WITHDRAWABLE.
PRODUCTION YEAR - 2015-2016

5- POWER SUPPLY FOR THE NEW SWITCHGEAR/MCC (BUS-B) AS ILLUSTRATED ON TO THIS SHEET SHALL BE SUPPLIED FROM EXISTING SWITCHGEAR/MCC (103-MCC-05) THRU POWER CABLES. AVAILABLE SPARE FEEDER (F-61, 400A, PANEL# 11, BUS-B) SHALL BE UTILIZED FOR THE SAID PURPOSE IN THIS REGARD. PLEASE REFER EXISTING DRAWING ATTACHED WITH TENDER DOCUMENTS FOR FURTHER INFORMATION.

6- ALL THE MODIFICATION WORKS AS STATED ABOVE SHALL BE PERFORMED IN A SATISFACTORY MANNER WITHOUT JEOPARDIZING THE EXISTING SYSTEM INTEGRITY & IP RATING. ALSO, ACTIVITIES WHICH REQUIRES SHUTDOWN OF EXISTING SWITCHGEAR/MCC SYSTEM SHALL BE SCHEDULED/ARRANGED IN SUCH A MANNER THAT ALL THE RELATED ACTIVITIES SHALL BE COMPLETED WITHIN THE ALLOCATED TIME OF SHUTDOWN, NO SEPARATE SHUTDOWN SHALL BE PROVIDED.

7- SINCE THE MODIFICATION WORK UNDER THE SERIAL NO. 04 AND 05 REQUIRES IN EXISTING SWITCHGEAR/MCC, THEREFORE, IT IS PREFERRED THAT ALL THE WORK SHALL BE PERFORMED THROUGH EXISTING SWITCHGEAR/MCC VENDOR /MANUFACTURER.

8- NEW SWITCHGEAR/MCC SHALL BE TYPE TESTED AS PER IEC-61439-1&2 AND IP RATING SHALL BE 42 AND FORM OF SEPARATION 4B.

9- AUXILIARY/CONTROL POWER SUPPLY SHALL BE FETCHED INTERNALLY FROM MAIN BUS AND ACCORDINGLY DISTRIBUTED TO INDIVIDUAL LOAD.

10- ALL FEEDER CIRCUITS SHALL BE PROVIDED WITH LOAD SHEDDING CONTACT.

11- EACH COMPRESSOR MOTOR SHALL BE PROVIDED WITH FIELD MOUNTED DISTRIBUTION BOARD ALONG WITH SUITABLE PROTECTION FOR CONNECTED LOADS, MAIN COMPRESSOR MOTOR AND COMPRESSOR AUXILIARIES/ HEATERS LOADS SHALL DRIVE THEIR POWER FROM RESPECTIVE DISTRIBUTION BOARDS AS STATED ABOVE. FURTHER, EACH COMPRESSOR/COMPRESSOR MOTOR SHALL HAVE FACILITIES FOR MANUAL AND AUTOMATIC STARTING IN CASE OF FAILURE OF THE ONE COMPRESSOR/COMPRESSOR MOTOR.

12- ELECTRICAL CONTROLS TO BE SUPPLIED AS AN INTEGRAL PART OF THE COMPRESSOR SHALL BE INTERLOCKED WITH THE START/STOP CONTROLS AND BE SUITABLE FOR THE ENVIRONMENT WHERE THEY INSTALLED.

13- ALL FEEDER MCCB'S SHALL BE FITTED WITH MINIMUM OF THERMAL & MAGNETIC PROTECTION.

14- THE RATINGS OF CT'S, VT'S, MCCB'S/MPCB'S, MAGNETIC CONTRACTOR, ELECTRONIC OVERLOAD/OVER CURRENT RELAYS ETC. SHALL BE SELECTED BY VENDOR AS PER CONNECTED LOAD CURRENT, FALUT CURRENT AND DEVICE CO-ORDINATION REQUIREMENT AND COMPLETE CALCULATION SHALL BE SUBMITTED TO CLIENT FOR REVIEW & APPROVAL.

15- LOAD SHEDDING CONTACT SHALL BE PROVIDED IN ALL LV OUTGOING CIRCUITS.

16- LOAD FLOW, SHORT CIRCUIT, VOLTAGE DROP, HARMONIC, ARC FLASH, TRANSIENT STABILITY, MOTOR STARTING STUDY AND RELAY CO-ORDINATION STUDY SHALL BE CARRIED OUT BY EPCO ON LICENSED SOFTWARE I.E. CAP OR EQUIVALENT VALID LICENSE OF SOFTWARE SHALL ALSO BE SHARED WITH M/S OGDCL AT THE TIME OF BIDDING OR WHENEVER REQUIRED BY OGDCL.

RE-ISSUED FOR TENDER

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