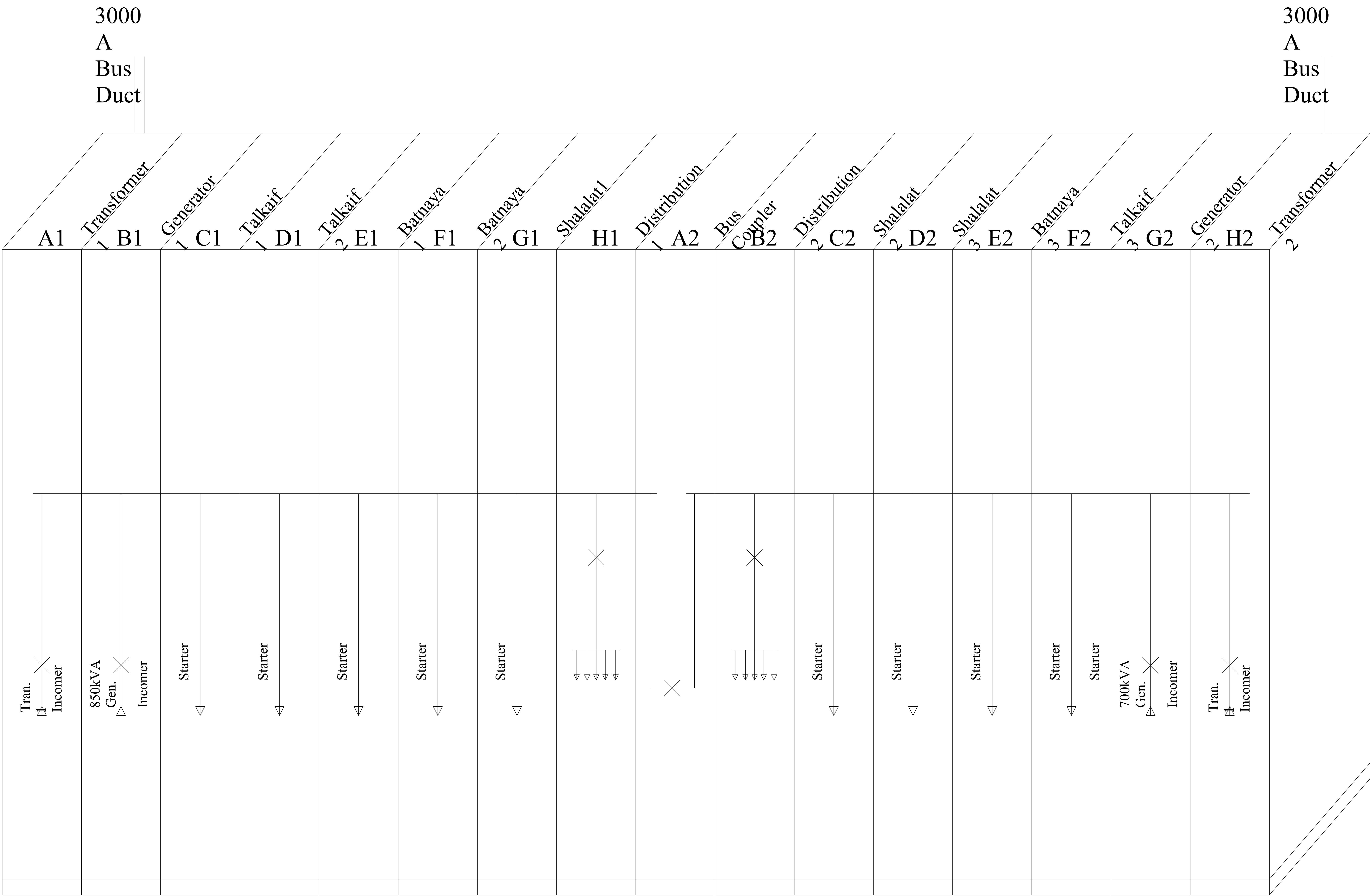
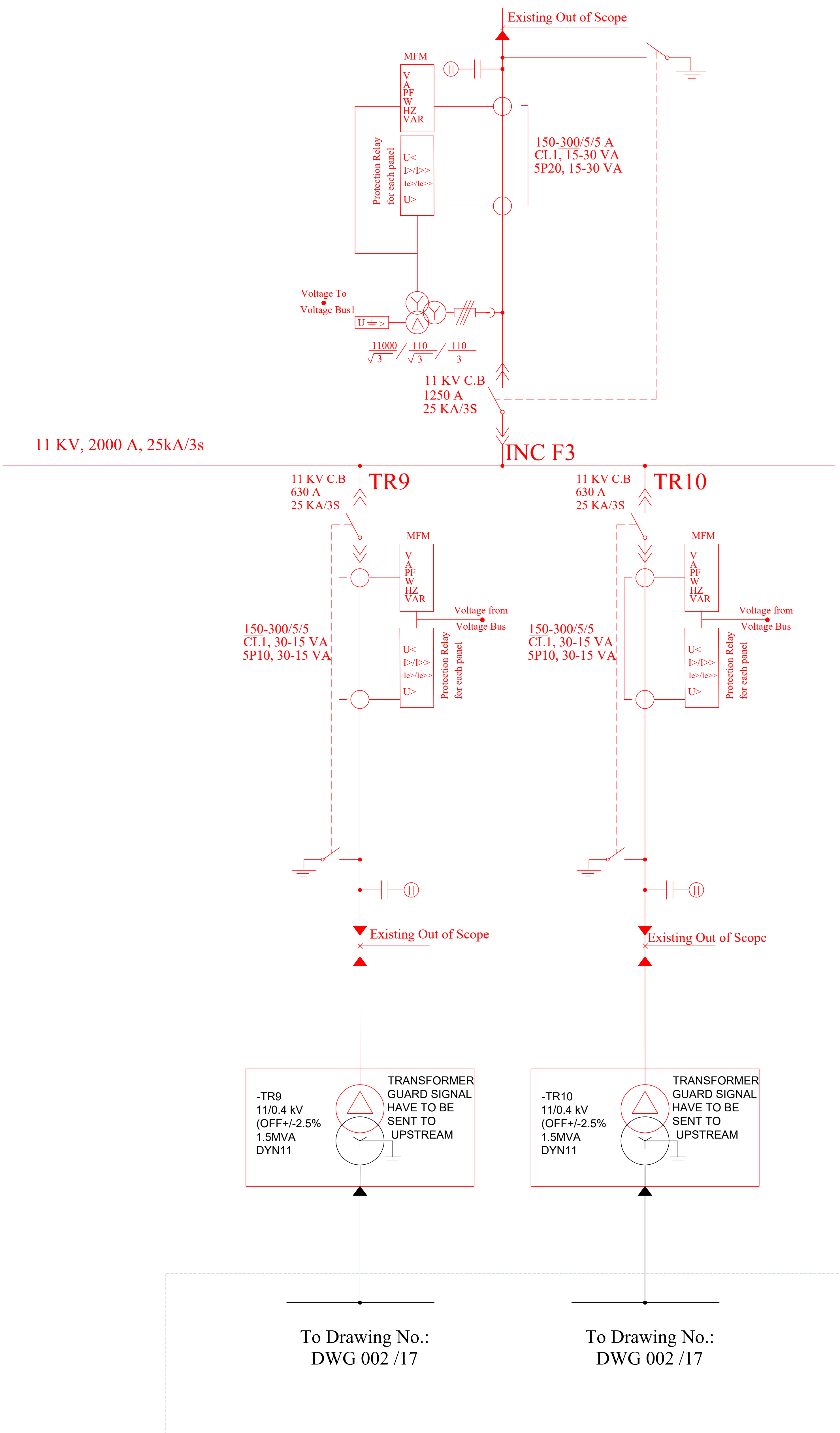


Typical and Proposed Electrical Drawings for renovation of Talkaif Water Treatment Plant



- Safe and logical Interlock for the system is required, the interlocking system is subject of end users approval.
- Generator 11 kV C.B. should have electrical interlock with related national grid C.B. and Automatic/ Manual changeover control should be provided.
- All Circuit Breakers, should be protected with a protection relay, includes at least minimum protections required for the system, considering protection selectivity, The circuit measurements have to be monitored by digital Multi- Function meters includes all necessary readings, Both relays and multi- Function meters should have facility to be connected with SCS.
- Alarm annunciation devices is required.
- 110 V DC supply Including two set of charger (230VAC /110VDC automatic chargers, can be run in parallel, BOOST, Float and equalize charge) with one set of 110VDC 145 AH batteries and a DC distribution panel with enough output MCCB's for supplying protection, control, emergency lighting system and signaling systems are required.
- Size of current transformers, MCB's, wires and cables must be selected according to calculations, the calculations reports are subject of end user's approval.
- Transducers have to be used for all measuring points.
- Number of the panels, panels dimensions, plate thickness, painting type and paint color are subject of end users approval, selection has to be carried out according to standards.
- All creepage's and clearances have to comply with Standards.

TALKAIF WATER PROJECT	U	N
HIGH LIFT PUMP LV DISTRIBUTION PANRLS	D	P
PROPOSED LV DB GENERAL LAYOUT		
APPROVED BY:		
DRAWN BY: AREE OMER QADIR	DRAWING No.: DWG TAL002/17	REV. No.: Rev A



- Safe and logical Interlock for the system is required, the interlocking system is subject of end users approval.
- All Circuit Breakers, should be protected with a protection relay, includes at least minimum protections required for the system, considering protection selectivity, The circuit measurements have to be monitored by digital Multi- Function meters includes all necessary readings, Both relays and multi- Function meters should have facility to be connected with SCS.
- Alarm annunciation devices is required.
- 110 V DC supply Including two set of charger (230VAC /110VDC automatic chargers, can be run in parallel, BOOST, Float and equalize charge) with one set of 110VDC 185 AH batteries and a DC distribution panel with enough output MCCB's for supplying protection, control, emergency lighting system and signaling systems are required.
- Size of current transformers, MCB's, wires and cables must be selected according to calculations, the calculations reports are subject of end user's approval.
- Transducers have to be used for all measuring points.
- Number of the panels, panels dimensions, plate thickness, painting type and paint color are subject of end users approval, selection has to be carried out according to standards.
- All creepage's and clearances have to comply with Standards.

TALKAIF WATER PROJECT	U	N
HIGH LIFT PUMP MV SWITCHGEAR ROOM	D	P
PROPOSED SINGLE LINE DIAGRAM		
APPROVED BY:		
DRAWN BY: DLSHAD HASAN M. ALI	DRAWING No.: DWG TAL001/17	REV. No.: Rev A