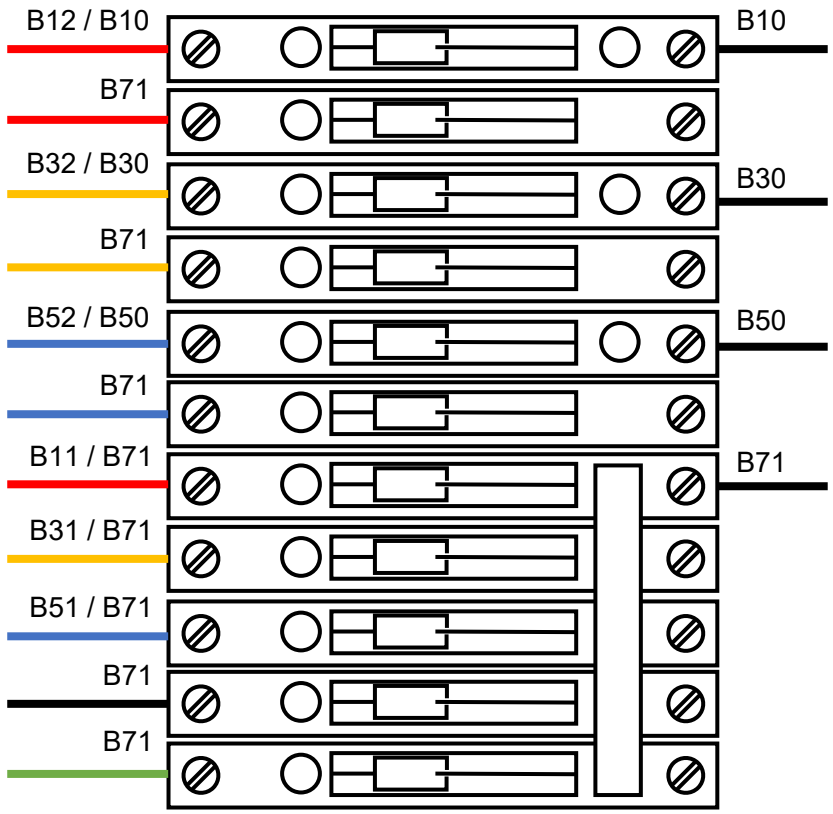
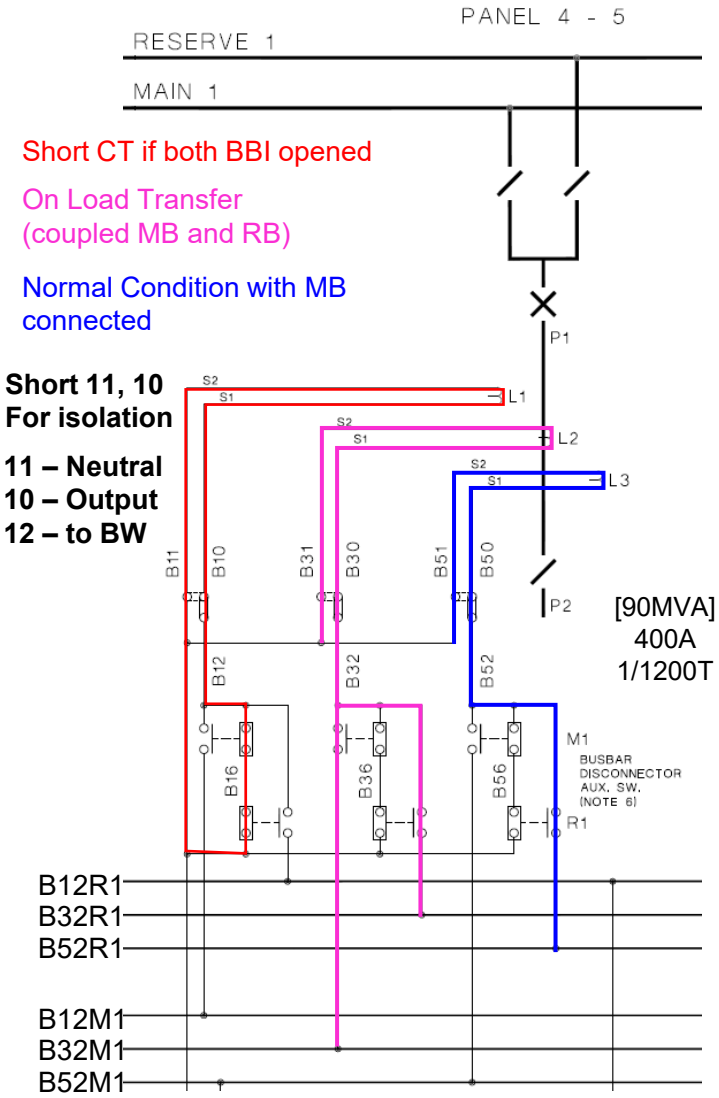
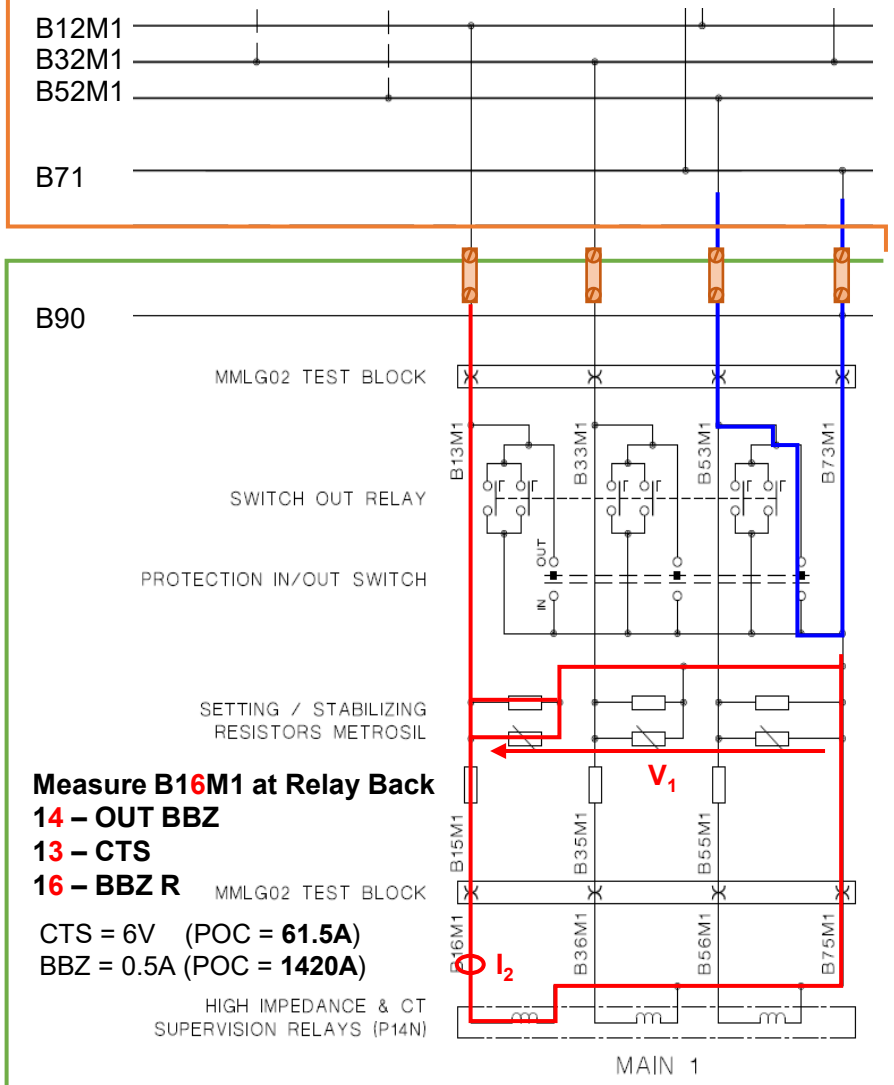
HZBBZ Stability Test (20240327 – YUE132)

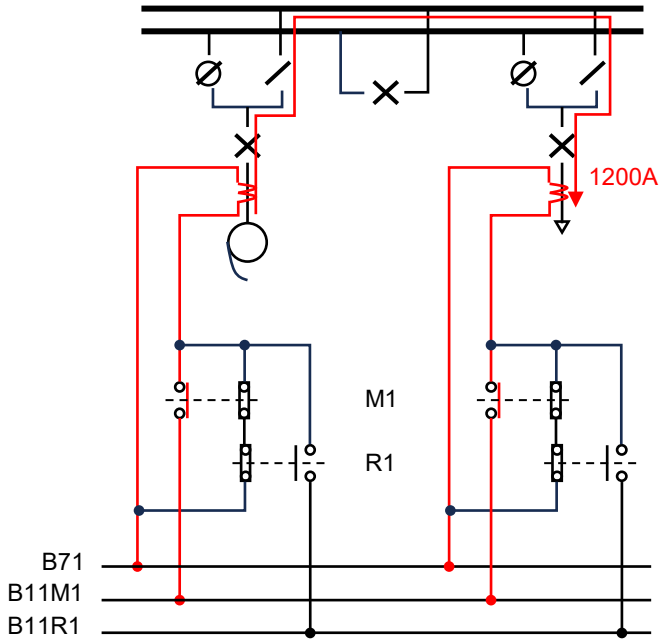
1. Where to perform **short and isolation** for **132kV HZBBZ**?
   a. relay panel 4A, 4B b. switchgear LCP
   c. HZBBZ M2, R2 panel
2. Which side should be shorted, left or right at terminal block?
3. What are the problems on wiring in the LCP?
4. What could cause DEF/OOC alarm during on load transfer?
5. What are the risks of incorrect shorting CT, and what are the follow up actions?
6. What are the tests to be performed in case auxiliary switch is replaced? (Any on the DC circuit?)



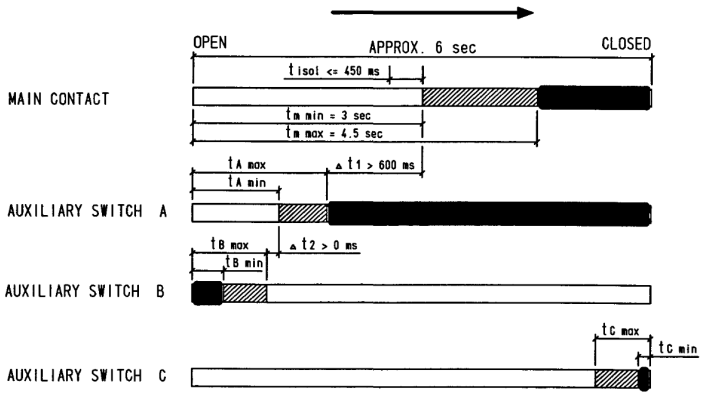




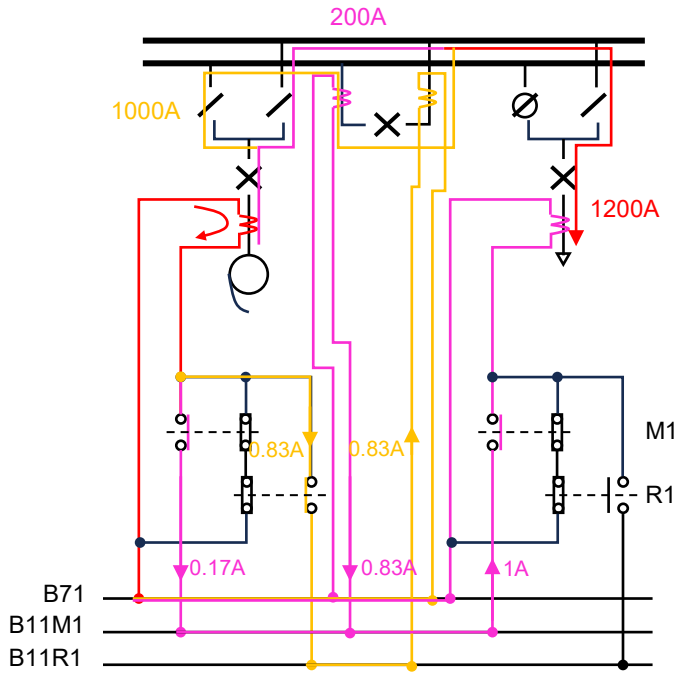
Normal Condition before On Load Transfer



MB current **circulates** from one circuit to another in secondary circuit without any problems.



Normal Condition during On Load Transfer

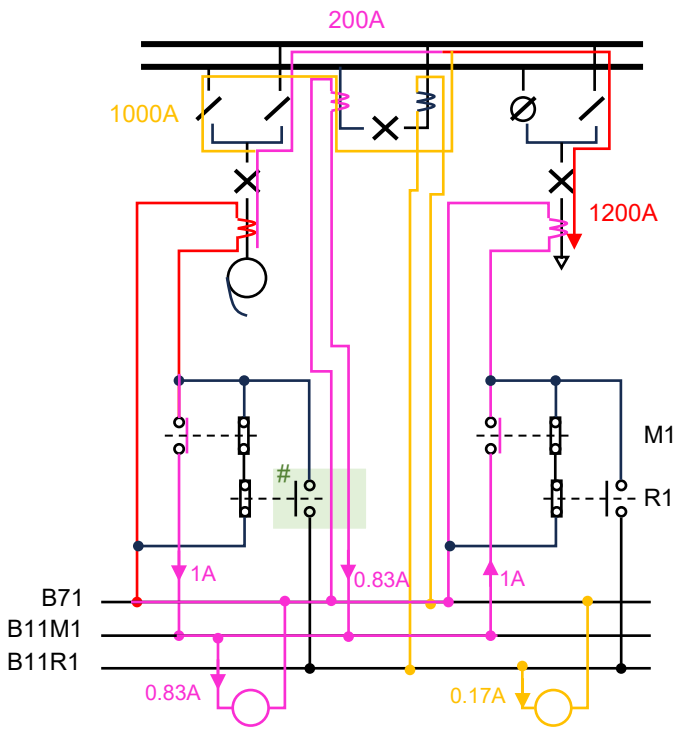


During On Load Transfer

- It is essential to make sure secondary current flow will NOT be limited by the status of MBBI and RBBI auxiliary.
- It is “early make late break” type contact. Current will flow itself. In case there is no easy current path, current flows into high impedance path (into relay)

	N.O. Aux. Switches Qty. & Type		N.C. Aux. Switches Qty. & Type	
BBZ A Protection	3	(A)	3	(B)
BBZ B Protection	3	(A)	3	(B)
BBZ Trip Selection	2	(C)	0	

Sluggish Closing of RB Aux during On Load Transfer



In case Auxiliary Contact is NOT fast enough

- Current path will stay as before On Load transfer.
- Partial current in primary flows directly to the load, and partial current flows through BC to the load.
- Current flowing through the BC catch the “additional current” to both BB. In case MBBI has a higher impedance than the RBBI + BC CB, major current flows through BC CB and the “additional current” will be larger.
- The asymmetry in primary circuit and secondary circuit activates the CT Supervision function ($61.5A_{PRI}$) and disables HZBBZ with DEF/OOC alarm.

sluggish closing of RB Aux