



Main-Tie-Main Close Transition Sequence of operation

Initial startup

Place selector switch (DEV 43) in 'manual' mode. Open tie breaker and then close both main breakers by their respective control switch (DEV CS).

Place selector switch in 'automatic' mode.

Normal plant operation is with both main breakers closed, tie breaker open, and selector switch (DEV 43) in 'automatic' mode.

Electrical interlock

The two incoming lines are electrically interlocked such that all three breakers cannot be closed at the same time, and incoming line breakers cannot be paralleled, except during re-transfer when operating under automatic mode.

In event of the protective relay trip via lockout relay (dev 86), the opened main and tie cannot be closed until the fault is removed, and lockout relay is reset.

Manual mode - (selector switch (DEV 43) in 'manual')

Each main and tie breaker can be closed by their respective breaker control switch (DEV CS) subject to electrical interlock above.

Automatic mode - (selector switch (DEV 43) in 'automatic')

(a)

Loss of voltage (UV or NEG SEQ) on either incoming line will after a time delay cause its main breaker to open and then the tie breaker will close, provided that voltage is present on the other incoming line.

When the voltage is restored, the main breaker would after a time delay automatically close and then the tie breaker will open.

(b)

However, if the voltage is subsequently lost on the second line after the transfer has occurred as described in (a) above, the second line will after a time delay open and then the tie would open.

Return of voltage on either line will after a time delay cause its main breaker to close, and then the tie would close. When voltage returns to the other line, the main breaker will after a time delay close, and then the tie breaker will open, restoring the system to normal.

(c)

Simultaneous loss (or restoration) of both sources will after a time delay cause both main breakers to open (or close), leaving the tie breaker open.

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