

CAP48: Disconnection Triggers

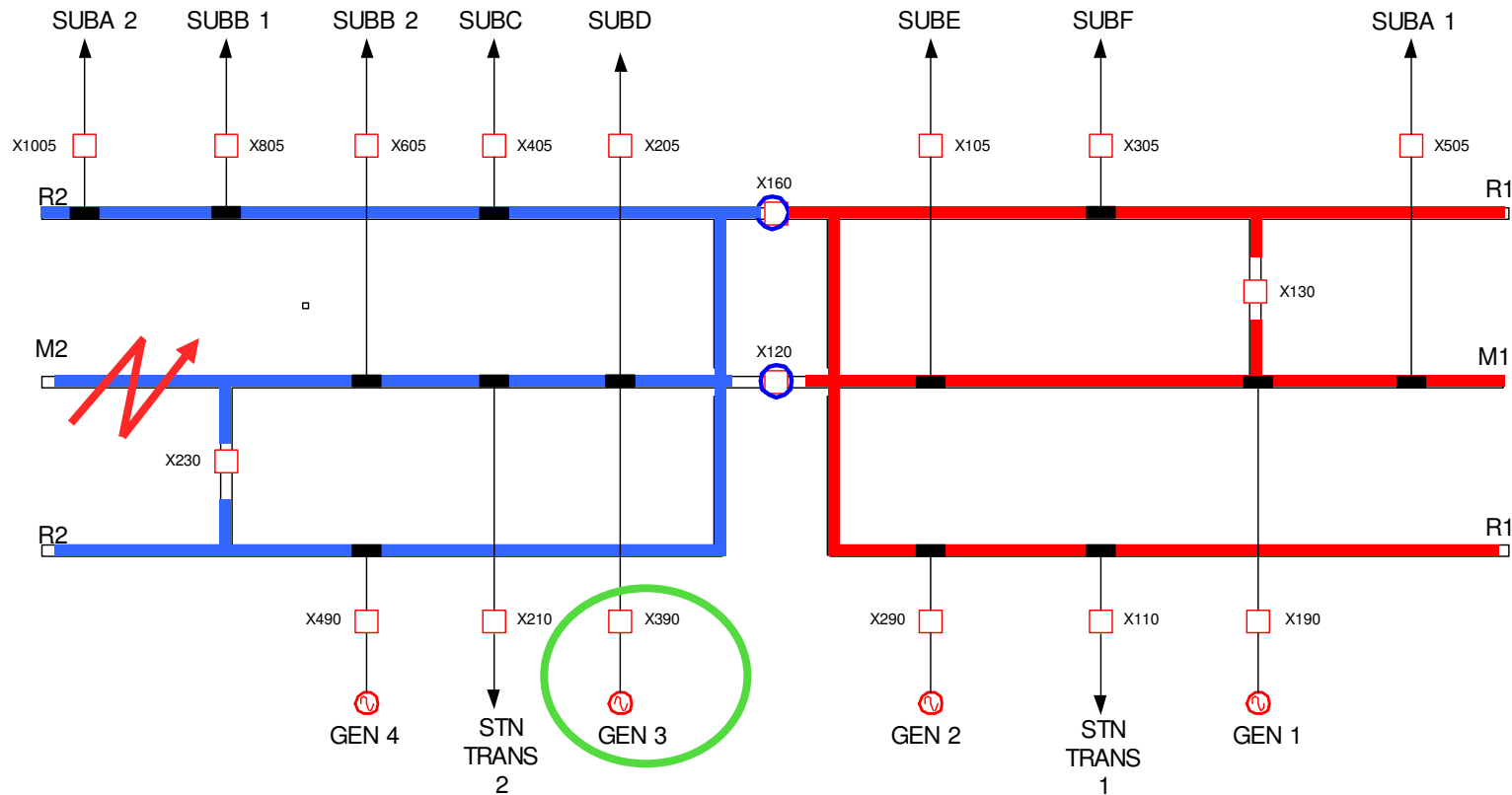


Steve Curtis

CAP48: Disconnection Triggers

- A number of transmission system outages / faults could lead to the disconnection of generation
- It is often difficult to determine the circumstances for which CAP48 payments are applicable
- The following slides show a number of potential disconnection triggers
- Is CAP48 applicable?

Bar outage: intact double bus station



Assume MB 2 outage:

Unplanned:

Main Bar 2 Fault

Generator 3 disconnected

Will be off until transfer to R2

Planned:

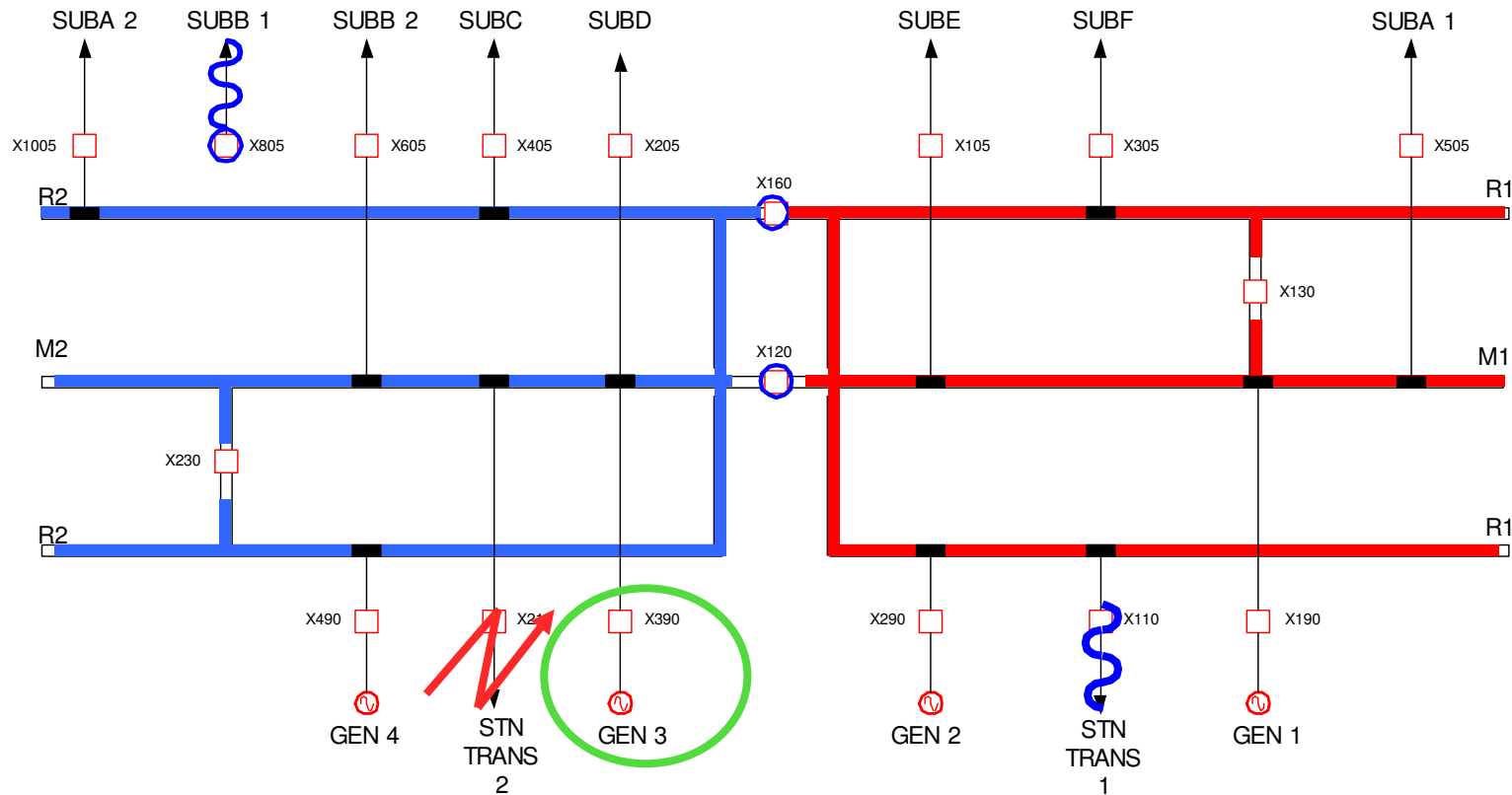
Would reselect ccts and generators prior to outage to prevent disconnection.....



Will be off until R2 or M2 restored

Reserve Bar 2 would not normally be expected to be planned at same time (but could be)

Depletion of Station Supplies



Assume Station Transformer 1 out of service and consider simultaneous outage of Station Transformer 2:

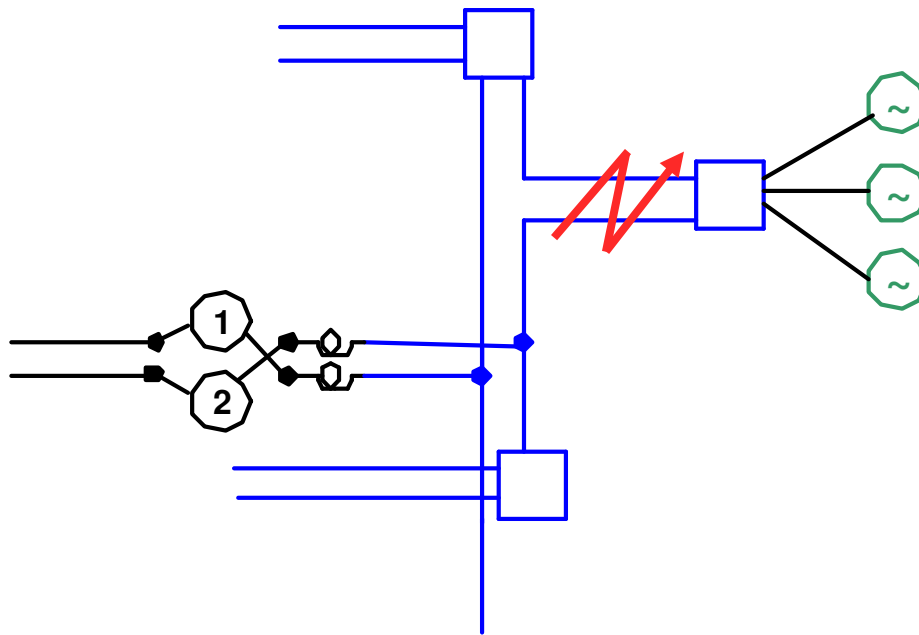
Unplanned:

Power station supplies disconnected
All units will desynchronise (non instantaneous)?
Re-synch after restoration of supplies
NB other faults (including MB2 fault will have same effect)

Planned:

Would not plan simultaneous outages of both Transformers

Local circuit outages



Assume loss of double circuit connecting power station to system

Unplanned:

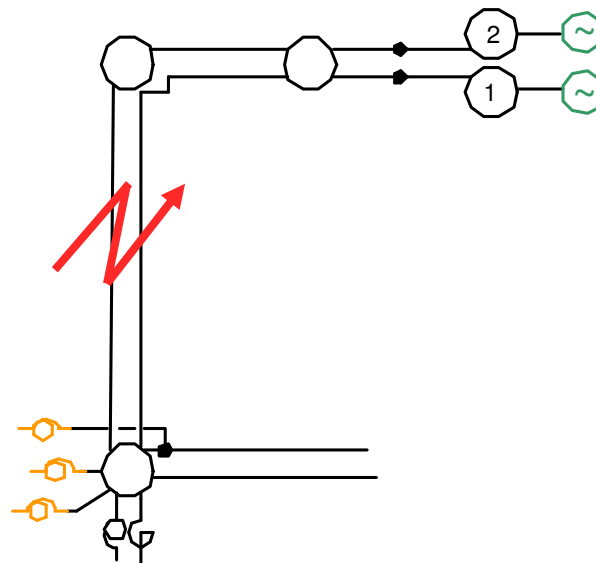
Power station disconnected
Often covered (but not always) by CAP76 Cat 4
intertrip (paid under CAP76 terms)
Re-connection on restoration of one or more circuits

Planned:

Would not normally plan simultaneous outages
of both circuits
NB some single circuit connections, **most**
covered by BCA

NB same situation for unplanned single coincident planned single circuit outage

Remote circuit outages



Assume loss of double circuit connecting power station to system

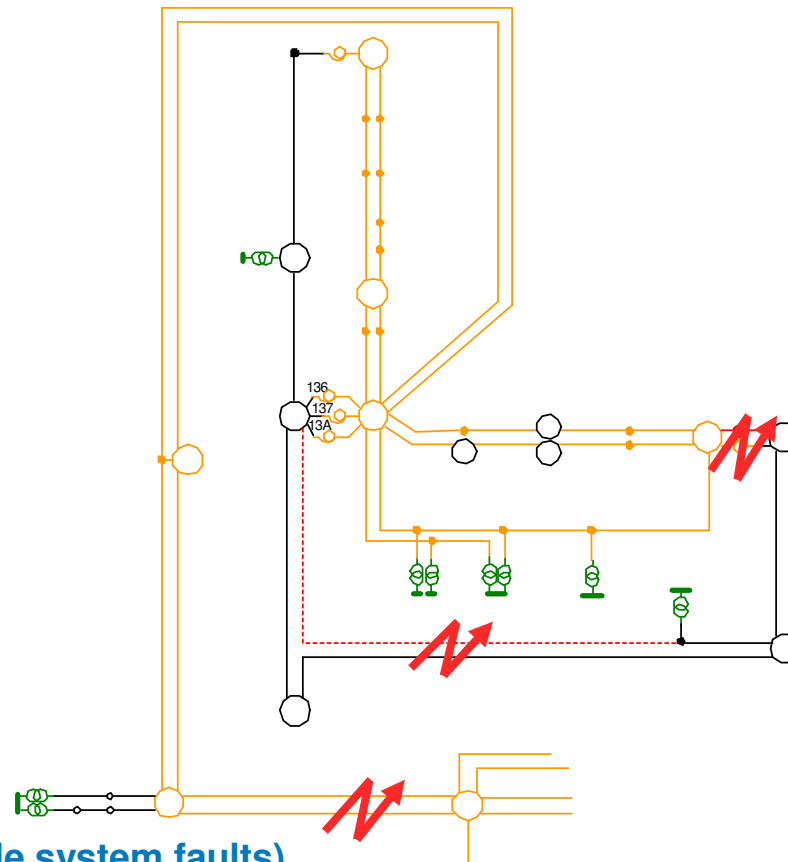
Unplanned:

Power station disconnected

Planned:

Would not **normally** plan simultaneous outages of both circuits

Wider outages



Assume wider losses (e.g. multiple system faults)

Unplanned:

Multiple faults disconnect part of transmission system.
Power island not viable; a number of power stations disconnected (perhaps instantaneously, perhaps after delay)

Planned:
N/A

Other

- Disconnection following fault in proximity
(eg Stability / Low Frequency / ROCOF) ?
- Switching Error ?
- Specific supplies (eg dedicated FGD supplies; could be considered akin to station supplies)?