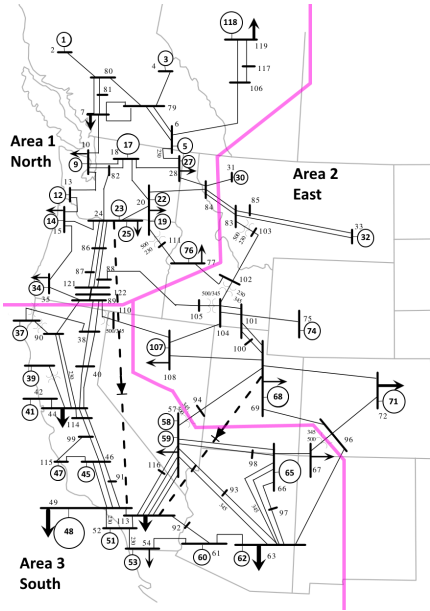


10 Minute AGC Recovery of Mini WECC after 2 Generator Trips

- Events: Trip of Bus 1 Gen at $t = 5$
Trip of Bus 30 Gen at $t = 8$
- Each area has identical conditional AGC that acts at $t=40$ and again when $t=160, 280, 400, 520$ (i.e. 2 minute action time).
- ODE solver tolerances:
Relative: $1e-5$
Absolute: $1e-7$
- States and derivatives of tripped machines set to zero.



Method	Step Size [seconds]			Total Steps	Solutions Per Step		Total Slns.	Sim. Time	Speed Up
	Max.	Min.	Ave.		Ave.	Max.			
FTS	0.0083	8.30E-04	0.0083	72,001	2	2	144,002	707.51	1.00
VTs	0.5333	2.03E-06	0.0273	22,006	3	783	57,448	540.02	1.31
VTs - 0dx	3.2744	2.03E-06	0.0757	7,932	3	781	21,260	210.51	3.36

Result Summary:

- Zeroing out of machine states and derivatives decreased required simulation time.
- Unsure why time steps remained ‘small’ when $t > 300$.

