

OPERATIONAL & PLANNING CONSIDERATIONS FOR RESILIENCY

Ian Dobson Iowa State University in 2012; University of Wisconsin-Madison in 2011



Objectives

- Quantify resilience to cascading failure
- Deliverable: Case studies of monitoring or mitigating cascading

Importance

Keep the lights on as we transform the grid

Any new technology that causes blackouts will be curtailed

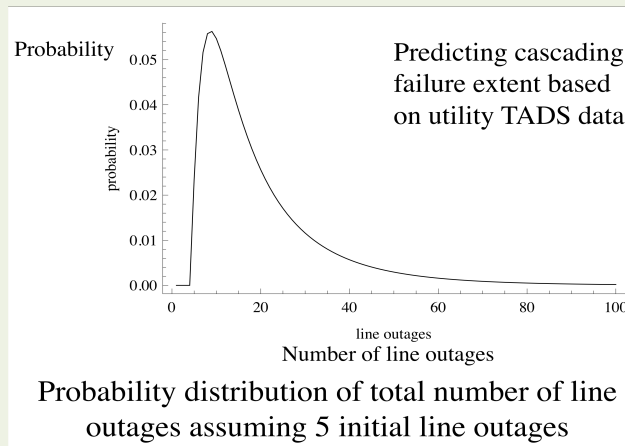
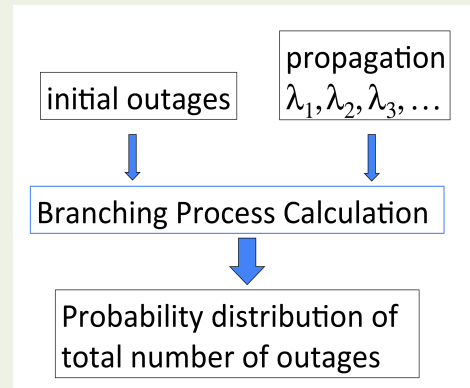
Uses

Monitoring & managing risk of cascading blackouts

Monitor resilience from standard TADS utility data reported to NERC

cascading = initial outages + propagation

Estimate propagation λ from ~ 1 year of line outage times



Monitor area stress by combining PMU measurements along border

new concept: angle across area

