Probabilistic Risk Assessment 2018

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Probabilistic Risk Assessment (PRA)

- Performed for 500/230kV Transformers within the PJM footprint
- Evaluates the risk of Transformer loss in terms of probability and economic consequence
- Identifies optimal mitigation measures through deployment of spares
Risk Evaluation

Risk = Probability × Consequence

- Condition Assessment
  - Age
  - Test Data
  - Maintenance/Operations
- Locational Risks
  - Hurricanes/Tornadoses

- Congestion Cost
- Replacement Cost
- Collateral & Environmental Cost
- Litigation Cost
PRA Software Outputs:

• the annual risk to the PJM system for loss of a transformer in terms of dollars
• the number of spares required to mitigate risk
• the optimal spare location(s)
• the value of moving a spare
• The PJM footprint is adequately mitigated with the existing spares on the system

• No Transmission Owner RTEP requirements were identified