The frequency of large blackouts in the United States is not decreasing. Certainly the frequency is not decreasing. A lack of coordinated, system-wide solutions to the blackout problem has this effort significantly affected reliability of the bulk electricity system.

### Conclusion

- **Potential explanations for the lack of improvement**
  - Insufficient investment in transmission infrastructure
  - An increase in stress on the transmission system due to industry restructuring
  - Failure of the protection system to control cascading failures
  - Inherent complexity of the transmission system
  - Inadequate regulation and policy framework
  - Failure to adequately address the root causes of large blackouts

### Statistical tests

- **Kruskall-Wallis (K-W) T-test**
  
  - Mean frequency (size ≥ 400 Y2k MW) for years 1984-1997 = 8.29
  - Mean frequency (size ≥ 100k Y2k customers) for years 1984-1997 = 5.50
  - Mean frequency (size ≥ 100k Y2k customers) for years 1999-2003 = 12.00
  - Mean frequency (size ≥ 400 Y2k MW) for years 1984-1997 = 8.29
  - Mean frequency (size ≥ 100k Y2k customers) for years 1999-2003 = 10.20

- **Correlation test:**
  
  - Correlation between year and frequency = 0.12 (P=0.62)

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### Data sources

- Event counts, with size measured in customers: 137 events with size ≥ 100,000 year-2000 customers.
- Event counts, with size measured in year-2000 MW: 1.316 events (per year) for the years (84-97) and (99-03).

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