



Sequencers for FPR (Failure Prevention and Resolution) in Smart Grids

Control algorithms and sequencers optimize resource allocation and prioritize repair/prevention to minimize major losses and damages in large networked systems like smart grids and logistics.

Researchers at Purdue University have developed sequencers for failure prevention and repair (FPR) in smart grids. This technology can be used to optimally allocate resources and prioritize failures in massively distributed networks. The focus is on repair, recovery, and prevention using a suite of control algorithms for failure prevention and resolution. This helps users prevent major losses and damages in large networked systems.

Advantages:

- Sequencing repairs in smart grids for different goals
- Optimizing repair resources allocation for different types of failures
- Preventing cascading failures in smart grids

Potential Applications:

- Smart grids
- Water distribution networks
- Logistics grids
- Computer and information networks

TRL: 3

Intellectual Property:

Provisional-Patent, 2019-12-02, United States | PCT-Patent, 2020-12-02, WO
| NATL-Patent, 2022-06-02, United States

Technology ID
2019-NOF-68441

Category
Energy & Power Systems/Grid
Modernization & Smart Grids

Authors
Xin Chen
Shimon Y Nof

Further information
Will Buchanan
wdbuchanan@prf.org

View online



Keywords: sequencers for failure prevention and repair, FPR, smart grids, distributed networks, control algorithms, repair recovery prevention, cascading failures, resource allocation, logistics grids, computer information networks