Sandia and DOE's AI-Based Protective Relay — Isolating Wildfire-Igniting Grid Faults 100 Times Faster (An Early-Stage Case)

AI in the Public Sector · Good practice · United States of America

Quality score: 47/100

Evidence strength: Moderate

Summary

Sandia National Laboratories and the U.S. Department of Energy are testing an AI-based protective relay that can isolate electrical faults capable of igniting wildfires roughly 100 times faster than conventional equipment, with field trials still in the planning stage.

Key dimensions

Dimension	Score
Evidence of impact / measured public value	1/3
Transparency, fairness & accountability	2/3
Transferability / demonstrated replication	1/3
Scalability beyond pilot	1/3
Governance, capability & sustainability	2/3

Evaluated by C-NAPSE

Data sources

C-NAPSE web research — accessed 2026-08-20

U.S. Department of Energy (CESER) & Sandia National Laboratories — accessed 2026-08-20

DOE — Fortifying America's Electric Grid Against Wildfires With AI — accessed 2026-08-20

Sandia National Laboratories — Wildfire Electric Grid Resilience — accessed 2026-08-20

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