THE INTEGRATED GRID
REALIZING THE FULL VALUE OF CENTRAL AND DISTRIBUTED ENERGY RESOURCES

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NECPUC
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Electricity Sector Drivers…Leading to Uncertainty
The Electric Power System...Today

Grid is Interconnected...Reliability is Maximized
Looking Forward…What Changes

Grid is Interconnected…and Integrated…Value is Maximized
Value that the Grid Provides…

24 by 7 Electricity

Startup Power

Voltage Quality
Emulating the Grid…with Off-Grid DER

Oversized PV Array  Additional Electronics

Backup Generation  Controlled Load

Multi-day Storage

Monthly Cost to Provide Grid Services from Local Resources¹

$275-$430

Projected Cost in 2020

$165-$262

¹ Does not include additional cost of energy from local resources

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Foundation of An Integrated Grid

1. Grid Modernization

2. Communication Standards and Interconnection Rules

3. Integrated Planning and Operations

4. Informed Policy and Regulation
Lessons from Germany...

Energy Costs Up Significantly

Coal/CO₂ Emissions Not Reduced

Increased Risk of System Instability
Together...Shaping the Future of Electricity

www.EPRI.com/integratedgrid