

Theme A: Session 3 Climate Proofing of Future Grids & Advanced Materials for **Extreme Weather Events**

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Climate Impacts & Community Resilience on Planning & Operations



28 Feb - 04 March 2023 | New Delhi







Physical Climate Variables

- Identify climate variables
- Trends & projections

Energy System Relevance

- Situational awareness
- Siloed utilization of decentralized DERs
- No community engagement

Operational Planning

- Potential risk and solutions pathways with existing DERs
- Effective community plans

Operations

- Decentralized vs centralized operations
- New operation and control strategies

New Approach for T&D Resilience











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Accelerating Resilience of the Community through Holistic Engagement and use of Renewables (ARCHER) DOE 0002597

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Identify **Community Needs** and Resources

Community identifies unique services & resources (solar) for energy resilience.

Identify Resilience Improvements for **Range of Events**

Resilience improvements linked to extreme weather hazard and need of community.

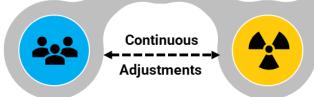
Community Data Exchange **Platform**

Data model and platform equips communities and utilities to exchange data in during all event stages.













Community **Engagement**

Community informs utility through a structured, holistic, engagement process.

Develop Metric and Identify Risks

Analysis to understand socioeconomic, energy, environmental, & electric system risk.

Prioritize Resilience **Investments**

Community, energy, and electric system vulnerabilities drive resilience decisions.

Framework Testing, Validation & Adjustment

Framework tested with real- world examples to validate and refine the framework.















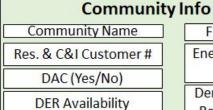


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Carrying ARCHER into Operational Planning Realm

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FEMA Risk Index Energy Consumption Insights Demand Flexibility /

Hazard View

Hazard Type & dur

Areas with electrocution risk

Resilience Hubs

List of Resilience Hubs with address and phone no. (Community Center, Place of Faith)

Maximum Housing Capacity of each hub

Approximate Current Housing Capacity of each hub

Essential Services

List of Essential Services with address & phone no. (Grocery Store, Restaurant, Hospital)

Maximum Housing Capacity of each service

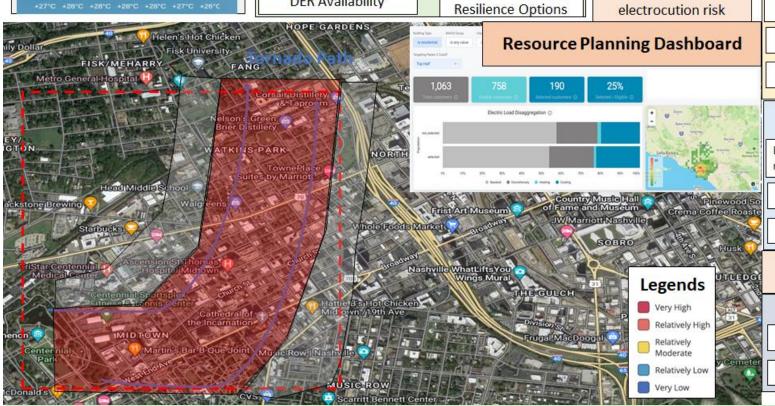
Approximate Current Housing Capacity of each service

Power Restoration Sequence

Safety Instructions

High Threat Zone

Moderate Threat Zone











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Thank You







