



# Distribution Energy Management Systems (DERMS)

MPSC DERMS Collaborative

10/29/2024

# DTE DERMS definitions

## Enterprise Utility DERMS

A Grid Management system that enables operational visibility and control of DERs across the electrical system through the ADMS that acts as a switchboard for DER-related protocols and information to simplify and coordinate the management of DERs and DER programs with utility systems and models for visibility, reliability, safety, planning, operations, and customer engagement.

## Grid Edge Services DERMS

Systems that manage DER and DR resources such as smart thermostats, water heaters, smart inverters, batteries and EVs) and optimize to provide value to customers

### Key Components of Grid Management

- Grid management is a category of investments that allow the Company to:
  - Monitor and control the power system
  - Manage planned and unplanned outages
  - Analyze and optimize the quality and reliability of the network
- The projects include the full suite of Advanced Distribution Management System (ADMS) distribution management applications including:
  - Outage response
  - Fault location, isolation and service restoration (FLISR)
  - Advanced control toolsets including DERMS

# DTE DERMS capabilities and benefits

## An Enterprise Utility DERMS is composed of multiple key capabilities:

- **Visibility:** Track the location, status, configuration, and capabilities of all DER on the electrical system. Capture data, availability, and performance from the DERs and send dispatch commands to those devices.
- **Coordination:** Track the energy management and economic program assignments, criteria and constraints for each DER and identify and prevent conflicts.
- **Consolidation:** Provide interfaces to DER and interfaces to utility information systems such as Customer Relationship Management, planning, Market Systems and the ADMS.
- **Forecasting:** Forecast the real time and short-term availability, energy balances, and capabilities of registered DER and align with utility and market programs.
- **Optimization:** Optimize dispatch commands for reliability, energy savings and economics, all while maintaining and respecting program constraints, customer decisions, and grid constraints and maintaining the operability of the electrical system.

Benefits	Description
Reliability and Resiliency	Ensuring a stable and reliable power supply to meet increasing demand and reduce outages, while enhancing the grid's ability to withstand and recover from disruptions or cyber-attacks
Electrification	Supporting the growth of electric vehicles and other electrified technologies, which drives changes in grid capacity and management
Demand Response	Implementing strategies to match electricity consumption with supply to optimize grid performance
Renewable Integration	Adapting the grid to incorporate renewable energy resources and manage their grid impacts and intermittent nature
Cybersecurity	Enhancing the grid's ability to withstand and recover from disruptions or cyber-attacks

# DTE DERMS status and timeline

- Initial focus is on the areas where DERMS is needed for visibility and compliance and areas where DERMS can increase the efficiency of existing processes and systems.<sup>1</sup>
- The initial investment will be in tools to assign DERs to the electrical system model and the central program and configuration database
- Existing programs for DR and DERs will be integrated first and interfaces later in the project will enable operational coordination, planning and forecasting and prepare for FERC 2222 and future growth of DERs.

## 2025

- RFP, vendor selection and procurement
- Engineering and design
- Initial ADMS integration

## 2026

- Interfaces to advanced ADMS applications
- Integrate existing DR and DER programs

## 2027-2028

- Refine and expand integrations