INDUSTRY CONNECTIONS
DATA CENTERS: STANDARDS NEEDS ANALYSIS AND RECOMMENDATIONS

OVERVIEW

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DATA CENTERS: STANDARDS NEEDS ANALYSIS AND RECOMMENDATIONS

Industry Connection Activity approved in June 2025

■ https://standards.ieee.org/industry-connections/activities/data-centers-standards-needs-analysis-and-recommendations/

Objectives

■ Identify the current state of standards (or any requirements that need to be obeyed, e.g., standards, guidelines, policies, …) relevant to data centers

■ Assess anticipated future needs for such standards, and

■ Define a path for the standards community to help assure reliable operations of both data centers and the supporting infrastructure

THIS IS NOT AN IEEE STANDARDS DEVELOPMENT EFFORT

ORGANIZATION

Two Working Groups

Protecting the IT load

- **WEI-JEN LEE AND ASHISH UPRETI**
- Data center design to protect its IT load (incl UPS, cooling/HVAC, power quality, voltage disturbance, energy efficiency, …)
- Options and design considerations for powering data centers
- Consumption pattern and response in normal operation, including flexible load deployment, and during a disturbance
- Cooling and environmental considerations

Protecting the grid

- **ERIC MEIER, MARTY MCENROE AND BHARAT VYAKARANAM**
- Design and interface needs to protect the grid integrity (incl data center operations, communications, protection, ride-through design, …)
- Load forecasting – essential data needs for grid design, resource adequacy, … (for both short-term, ramping characteristics, and expected diurnal load shapes)
- Interfaces with grid operations – special requirements, e.g., demand flexibility, black start, …

NEAR-TERM/ QUICK TURN-AROUND

OBJECTIVE: Capture and catalogue the flurry of efforts throughout the industry

Industry Status Reports

- Who is doing what in data center-related standards (i.e., standards, guidelines, technical requirements, policies, …)
- What standards we know are applicable
- Gaps and recommended next steps

- The 1st of these reports, prepared by the Working Group on Protecting the Grid, is now available.
  - Review of Industry Efforts and Standards of Grid Readiness For Data Center Deployment

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