

# MADRI INTEGRATED DISTRIBUTION PLANNING (IDP) GUIDANCE WHITE PAPER

## OUTLINE TOPICS FOR DISCUSSION

MAY 24, 2018

- I. EXECUTIVE SUMMARY – 2-3 pages
- II. PURPOSE AND SCOPE – 2-3 pages
  - A. Provide guidance to Commissions for the establishment of IDP in MADRI States
  - B. Be specific as to restructured states
  - C. Set forth a process for establishing IDP
  - D. Promote consistency among MADRI regulatory commissions and utility footprints
  - E. Goal of the IDP
    - 1. Reduce T&D costs
    - 2. Increase resiliency and security
    - 3. Facilitate transactive energy
    - 4. Safe, reliable, and secure grid
    - 5. Support short- and long-term least cost integrated distribution planning
    - 6. Promote the operational integration of DERs
- III. PROCESS OPTIONS – 5-6 pages
  - A. Commission authority
  - B. Rulemaking and/or Order: pros and cons
  - C. Stakeholder participation
  - D. Binding or non-binding effect of a Commission Order on a utility IDP
  - E. Utility vs. Statewide Planning
    - 1. Considerations for interface with PJM
    - 2. Consideration of creating a Distribution System Operator
    - 3. Integration of efforts across Commission dockets and processes, other state agency processes, utilities and RTO
    - 4. Pros and cons of utility-by-utility or statewide IDP
    - 5. Synergies with other planning processes, grid modernization
  - F. Establishing the planning horizon (i.e., number of years included in plan)
  - G. Creation of an Action Plan within the IDP
  - H. Timeline for the IDP, frequency of filings
  - I. Addressing Alternative Ratemaking to focus on IDP issues

**IV. CONTENT OF AN IDP: WHAT INFORMATION DOES THE COMMISSION NEED?**

- A. Review of how the distribution system is currently planned, and how challenges are currently handled (contrast similarities and differences across states in a table) 2-3 pages**
- B. Load forecasts, including different scenarios and a description of load forecast methodology – 3 pages**
- C. Engineering assessment of distribution capacity on various parts of the system – 10 pages**
  - 1. Hosting capacity analysis
  - 2. Identification of weaknesses on the distribution grid
  - 3. Identification of constraints on the grid
  - 4. Criteria for prioritization of grid upgrades
  - 5. Identification of where DERs can be most useful on the system.
    - a. DER adoption forecasts (including estimates of DER capacity, number of customers with DER, etc.) and different scenarios and a description of forecast methodology
    - b. Attributes of DERs and how to value
    - c. Scalability potential to enable more DER connections
  - 6. Least cost options for the transition from one-way to two-way power flows
  - 7. Recommendations/plan for increased system resiliency
- D. Timeline for grid upgrades and the potential for avoiding them with non-wires alternatives - 1-2 pages**
- E. Identification of Technical Considerations to be discussed in an IDP – 10 pages**
  - 1. Ability to integrate new services and products
  - 2. Interoperability
  - 3. System resiliency
  - 4. Activities to improve system efficiency
  - 5. Efforts to manage assets cost-effectively
  - 6. Security measures to protect against cyber attacks
  - 7. System performance and grid optimization to integrate DERs
  - 8. Environmental Management/Environmental Compliance Issues
  - 9. Submission of most recent Cost of Service Study, including information on any cost-shifting associated with DERs
  - 10. Critical infrastructure and resilience
- F. Identification of communications equipment needed for transactive energy - 3-4 pages**
  - 1. Transparency protocols
  - 2. Data requirements
  - 3. Access to data and privacy
- G. Identification of technological needs – 1 page**
- H. Review of interconnection procedures – 1 page**

- I. Discussion of state of coordination with resource and transmission planning (PJM) – **2 pages**
- J. Policy drivers, looking ahead at what is shaping the growth of DERs in the short and long term in the utility’s service territory – **1 page**
- K. Challenges that alternative ratemaking could address and recommendations – **2 pages**
- V. **BARRIERS TO IMPLEMENTING IDP**
  - A. Commissions - **2 - 4 pages**
    - 1. Approved rate designs
    - 2. State rules that might prohibit/inhibit DER deployment
  - B. Utilities – **5 pages**
    - 1. Utility lost revenue concerns
    - 2. Utility capital bias
    - 3. Potential for stranded assets
    - 4. Ownership issues: can utilities own DERs, namely storage?
    - 5. Physical constraints on the grid, i.e. the actual hosting capacity
  - B. Customers – **2 - 3 pages**
    - 1. Familiarity with DER performance/benefits, comfort with customer control
    - 2. Customer education and acceptance
    - 3. Low-income access
    - 4. Inertia
  - C. DERs – **3 - 4 pages**
    - 1. Customer compensation for DERs – recognizing full value to the grid
    - 2. Lack of aggregation option
    - 3. Coordination between utility and DER provider
    - 4. Timeline for IEEE rollout of smart inverter functions
- VI. **CONTENT OF A COMMISSION ORDER - 3 - 4 pages**
  - A. Approve, disapprove, modify, or require further revisions
  - B. Timeline
  - C. What actions could an IDP trigger?
  - D. Cost approval process for actions from an IDP
  - E. Summary of issues and positions
  - F. Findings of Fact and Conclusions of Law
- VII. **CONCLUSIONS AND RECOMMENDATIONS – 2 -3 pages**
- VIII. **APPENDIX - 4-5 pages**
  - A. Glossary of Terms
  - B. **REFERENCE DOCUMENTS BY CHAPTER – Each author should provide at the end of their section, any reference documents that would be useful to the Commission and other readers, to the extent applicable.**