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Distribution System Planning – State Examples by Topic

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 - [Grid Modernization Lab Consortium \(GMLC\)](#)
- ▶ Oregon Public Utility Commission
- ▶ National Renewable Energy Laboratory
- ▶ Foundational Report for this work from GMLC work:
 - [State Engagements In Distribution System Planning](#) – PNNL-27066. Dec 2017. Prepared by PNNL, LBNL, and NREL.
- ▶ Link to report that this webinar is based on:
 - https://epe.pnnl.gov/pdfs/DSP_State_Examples-PNNL-27366.pdf





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Part 1- Distribution System Planning – State Examples by Topic

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Webinar – May 14, 2018

Presentation of Planning Approaches, Topics I'll Cover

- ▶ My job today is to introduce our report, then to dive into some specific planning approaches. I will talk about:
 - distribution planning approaches
 - vision statements, goals and objectives
 - distribution planning and grid modernization material

Distribution System Planning – State Examples by Topic

May 2018

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Context Matters

- ▶ States work within different contexts, including:
 - statutory requirements
 - regulatory requirements
 - differences among utilities
- ▶ The review includes a wide range of contexts and approaches, such as planning in response to:
 - aggressive statutory requirements for renewables, and high existing penetrations of renewables
 - statutory and regulatory requirements for storm hardening
 - statutes instituting distribution investment rate riders
 - other statutory or regulatory initiatives

Assembly Bill No. 2868

CHAPTER 681

An act to add Sections 2838.2 and 2838.3 to the Public Utilities Code, relating to energy.



State Activities by Planning Approach

- ▶ The Grid Modernization Laboratory Consortium 2017 report was foundational, reviewing planning approaches on a state-by-state basis¹
- ▶ The May 2018 report is organized by planning approach, using information from 2017 updated with new developments since fall 2017
- ▶ Both reports cover 15 states plus the District of Columbia
- ▶ Table 1 in the report provides a roadmap, listing the planning approaches we summarize and the states reported within the report



¹ Grid Modernization Laboratory Consortium. 2017b. *State Engagement in Electric Distribution System Planning*. PNNL-27066. Prepared by PNNL, LBNL, and NREL for the US Department of Energy.



The Roadmap – Table 1

Planning Approaches	States With Advanced Practices					Other States' Approaches										
	California	Hawaii	Massachusetts	Minnesota	New York	D.C.	Florida	Illinois	Indiana	Maryland	Michigan	Ohio	Oregon	Pennsylvania	Rhode Island	Washington
Distribution system plan requirement ¹	√	√	√	*	√					√	√					
Grid modernization plan requirement	√	√	√	√	√											
Incentives reflecting locational value	√				√											
Hosting capacity analysis requirement	√	√		√	√											
Non-wires alternatives requirements	√				√										√	
Standardized calculations / processes	√				√											
Storm hardening requirements							√			√						
No planning requirement but proceeding underway ²						√		√				√	√		√	√
Requirement to summarize current practice				√	√					√						
Voluntary distribution or grid modernization plans supporting surcharge/rider cost recovery								√	√			√		√		
Improved alignment / linking processes	√			*											*	*
Required reporting on poor-performing circuits and improvement plans							√	√				√		√	√	

√ is used to indicate the planning approach is applicable under the present regulatory or statutory requirements.
 * is used to indicate that the planning approach would apply under pending proposals or proposed decisions.
¹ Requirements for one or more utilities.
² States noted in this row have processes underway which may result in adoption of one or multiple planning approaches listed in this table.



Vision Statements, Goals and Objectives

- ▶ Recognizing the importance of having a vision statement or goals and objectives, we discuss a sample of such statements.



Vision Statements, Goals and Objectives, continued



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- ▶ Minnesota’s Commission guided their process by asking 3 questions:¹
 - “Are we planning for and investing in the distribution system that we will need in the future?”
 - “Are the planning processes aligned to ensure future reliability, efficient use of resources, maximize customer benefits, and successful implementation of public policy?”
 - “What Commission actions would support improved alignment of planning for and investment in the distribution system?”
- ▶ Maryland’s Commission initiated a grid modernization process “... to ensure that electric distribution systems in Maryland are customer-centered, affordable, reliable and environmentally sustainable.”¹
- ▶ Minnesota and Maryland captured themes common to many states – customers, reliability, affordability, efficiency, and implementing policies

¹ For citations, see page 4.1 of Cooke, et. al., [Distribution System Planning – State Examples by Topic](#), PNNL and LBNL, May, 2018.

Distribution Planning – Leading Edge Considerations



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- ▶ Distribution planning has historically been performed, with pieces such as capital improvement plans appearing in general rate cases
- ▶ Several states have recently required utilities to submit distribution plans to the Commission to facilitate several objectives
 - Michigan’s Commission desired a greater understanding of the capital expenditures utilities submitted as part of general rate cases
 - Maryland’s Commission desired a greater understanding of the methodologies used by jurisdictional utilities to justify their investment plans
 - California’s Commission required distribution planning to support state greenhouse gas goals, to modernize the system to support 2-way power flows, to enable customer choice and to animate opportunities for distributed energy resources
- ▶ Overall, many states included in our report desire moving in a direction of greater visibility into the planning process and increased opportunity for stakeholder involvement



Grid Modernization Planning

- ▶ Table 1 shows 5 states with grid modernization planning requirements either in response to legislation or regulations, for 1 or more utilities
- ▶ Hawaii – the Hawaii Commission provided guidance to the state’s utilities to develop a grid modernization strategy, with areas of interest being:
 - Current status of electric grid infrastructure pertaining to grid modernization
 - Grid architecture and interoperability
 - Grid-facing technologies
 - Customer-facing technologies
 - Pace of grid modernization implementation
 - Costs and benefits of grid modernization
 - Flexibility and resilience
 - Health, cybersecurity, data access, and privacy





Grid Modernization Planning, continued

- ▶ To complete the story of Hawaii
 - Hawaiian Electric Companies (HECO) filed grid modernization plans in 2017
 - In 2018 HECO proposed a new planning process to integrate customer, distribution, transmission and bulk power resource levels of the system
- ▶ Several states have processes underway that have not yet resulted in GMP requirements. Thus, there is likely more to come.



Questions?

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