

Title 4—DEPARTMENT OF  
ECONOMIC DEVELOPMENT  
Division 240—Public Service Commission  
Chapter 22—Electric Utility Resource Planning

**4 CSR 240-22.055 Distributed Energy Resource Analysis**

*PURPOSE:* This rule specifies the minimum standards for the scope and level of detail required for ~~distributed~~ Distributed energy ~~Energy resource~~ Resource analysis and reporting. Planning for future Distributed Energy Resources ~~are-is~~ to be ~~evaluated~~ conducted as part of the resource planning process, but due to the rapidly evolving technology, relative speed of deployment, and site specific characteristics, this regulation requires some targeted analysis that is different from other portions of chapter 22.

(1) Definitions. For purposes of this rule:

(A) Customer-generator means a customer owned qualified electric energy generation unit that meets the criteria set forth in 4 CSR 240-20.065(1)(C);

(B) Congestion means a situation where the desired amount of electricity is unable to flow due to physical limitations;

(C) Cost-effective means that a resource passes one of the standard cost-effectiveness tests prescribed in the National Standard Practice Manual published by the National Efficiency Screening Project (NESP);

(D) Distributed Energy Resources (DERs) means resources sited close to customers that can provide all or some of their immediate electric and power needs and can also be used by the system to either ~~reduce demand~~ beneficially modify the net consumption of energy by customers (such as energy efficiency) or provide supply to satisfy the energy, capacity, or ancillary service needs of the distribution grid. The resources, if providing electricity or thermal energy, are ~~small in-scale~~, connected to the distribution system, and close to load. Examples of different types of DERs include solar photovoltaic, wind, combined heat and power (CHP), energy storage, demand response (DR), electric vehicles (EVs), microgrids, and energy efficiency (EE);<sup>1</sup> and

(E) Planning horizon means a future time period of at least ~~twentythree~~ (30) years' duration over which the costs and benefits of alternative resource plans are evaluated.

(2) Existing DER database. ~~Electric utilities shall create, and update annually, a database of information on DERs for purposes of evaluating current DER penetration and planning for future increases in the levels of DERs. This database shall be filed as a part of each utility's Chapter 22 filing and also made publicly available in an electronic format. The purpose of maintaining the publicly available data is to provide customers with circuit condition information to encourage efficient DER deployment. The publicly available database will include with appropriate customer privacy and utility protections related to physical and cyber security concerns, and will have capacity data aggregated and customer-specific information removed.~~

(A) Electric utilities shall be responsible for maintaining the following information in the database:

(A)1. Existing DERs presently connected to the utility's grid;

(B)2.— Information characterizing the distribution circuits where DERs are connected;

**Commented [A1]:** Footnotes will not appear in the rule, so to the extent this reference will be in the rule, it will need to be incorporated into the rule text.

<sup>1</sup> NARUC DER Manual at p. 45.

~~(C)3.~~ Aggregate capacity of DERs for each feeder or load; and

~~4.(D)~~ -Relevant interconnection standard and standby service requirements, as applicable, that specify DER performance of legacy and modern DERs.

(B) To the extent that a utility is not in possession of any of the information required herein, it shall state which information it does not possess, the reason the information is not possessed, and how the utility will obtain the information for future filings for planning purposes.

(C) The public DERs data-base shall be maintained and available to the public on individual utility web-sites; and made available upon request to any party.

(3) Market potential for DERs. As part of each triennial compliance filing, the utility will consider, at a minimum, include a study of the market potential for cost-effective utility- and customer-owned DERs within its service territory to help fulfill the fundamental planning objective set out in 4 CSR 240-22.010 and to provide customers with increased-more choices in obtaining their utility services. This study must cover no less than a ~~three~~-twenty year planning horizon, and will consider both utility-owned DERs and non-utility-owned DERs.

(4) Evaluating DERs as part of the Chapter 22 resource planning process. The evaluation must be conducted utilizing the methods described elsewhere in Chapter 22 and the definition of “cost-effective” prescribed above, and as part of the overall resource planning process and in order to facilitate greater DER penetration. The evaluation will acknowledge and reference the obligation of utilities to provide cost-based interconnection and standby service to qualifying facilities, as defined in the Public Utility Regulatory Policy Act of 1978. Qualifying facilities includes both small power production facilities (see 18 C.F.R. §§292.203(c) and 292.204 for size and fuel use, as well as 18 C.F.R. §292.207 as to certification as a qualifying facility) and cogeneration facilities (see 18 C.F.R. §§292.203(b) and 292.205 for operation, efficiency and use of energy output, as well as 18 C.F.R. § 292.207 as to certification as a qualifying facility). There is no size limitation for qualifying cogeneration facilities. The utility will include planning for future levels of DERs, and how they will be integrated into the utility's distribution system.

(A) DERs will be considered in the transmission and distribution (T&D) analysis required by 4 CSR 240-22.045. This includes existing and potential utility-owned DERs and non-utility-owned DERs. The utility will describe and document:

1. Areas of congestion which could be improved by DERs;
2. Avoided ~~transmission and distribution~~T&D (T&D)-costs as defined in 4 CSR 240-22.045(2) associated with avoided costs including, but not limited to, decreased congestion, reduced transmission network losses, and the implementation of “non-wires alternatives;” and
3. -Acceleration or modification of planned T&D improvements and associated costs that may be required in order to facilitate additional DER penetration.

(B) Evaluation of future deployment of cost-effective DERs is to be based on utility-owned or managed DERs and customer-owned DERs.

(C) DERs will also be examined as part of the demand--side resource analysis in accordance with 4 CSR 240-22.050 and the definition of “cost-effective” provided above and as part of the load analysis and forecasting analysis required in 4 CSR 240-22.030.

(D) The utility will evaluate the potential for integration of utility- and customer-owned DERs to impact grid reliability, to beneficially reduce peak demand and modify customer energy consumption, and to delay or reduce the size of supply-side resources additions.

(E) In addition to other requirements, DERs will also be modeled, considered, described and documented by the utility consistent with Regional Transmission Organization requirements ~~to do so~~.

(F) The evaluation must cover no less than a three-twenty year planning horizon, on a year by year basis to assess annual and cumulative impacts of DER deployment. ~~The utility is not required to utilize a twenty (20) year planning horizon for DERs as required elsewhere in Chapter 22 for other demand side resources.~~

(G) When assessing opportunities to reduce transmission network losses among the supply-side resources pursuant to 4 CSR 240-22.045(1)(A), the utility must conduct a detailed line-by-line hosting capacity analysis of ~~theits transmission and distribution~~ T&D systems. This assessment will be conducted on existing and potential utility- and non-utility-owned DERs, ~~as well as existing non-utility-owned DER.~~ The utility may focus its analysis on particular portions of its T&D systems based on factors including, but not limited to, the need for location-specific upgrades.

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