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Private Use Networks

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I. Introduction: What is a PUN?

ERCOT defines a Private Use Network ("PUN") as "an electric network connected to the ERCOT Transmission Grid that contains Load that is not directly metered by ERCOT (i.e., Load that is typically netted with internal generation)."[1] ERCOT settles PUNs as the net of generation and load during each interval, so if during an interval the PUN takes more energy from the ERCOT grid than it delivers, it is settled as load.[2] If the PUN delivers more energy than it takes, it is settled as generation.[3] While a PUN must register with ERCOT if it contains at least 10MW of generation, has more than one connection to the ERCOT grid, or provides ancillary services, the same general principles apply to both registered and unregistered PUNs.[4]

During the first two decades after deregulation, PUNs were mainly associated with industrial facilities along the coast. For example, a refinery might have an associated gas cogeneration facility. The refinery and the cogeneration facility might sit behind a single point of interconnection and a single ERCOT polled settlement meter ("EPS meter"). However, in the past few years, other loads have become interested in PUNs and similar behind-the meter arrangements. There are now PUNs with data centers and crypto-mining facilities, and oilfield compressors are now connected to nearby renewable generators. This paper examines the legal and regulatory framework that govern such arrangements.

II. Why PUNs?

One of the most cited reasons for installing behind the meter generation is transmission cost reduction. ERCOT transmission utilities recover their transmission costs through "postage stamp" rates assessed to individual distribution service providers ("DSPs"), allocated on a load ratio share based on the DSPs' demand at the coincident peak demand for June, July, August and September ("4CP") in ERCOT the previous year.[5] DSPs then pass these transmission costs on to their customers, including their large commercial and industrial customers. Customers can reduce their transmission charges by reducing their demand during 4CP events. One way to do that is by relying on PUN generation during peak demand times instead of taking power from the ERCOT grid.

Reliability is another common motivation for creating a PUN. Many industrial consumers have business operations that would be severely disrupted by a temporary loss of power. Having a direct connection to a generation resource provides an extra measure of reliability, insulating customers from outages on the ERCOT grid.

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[1] ERCOT Nodal Protocol § 2.1 ("Nodal Protocol").

[2] Nodal Protocol § 10.3.2.3(1).

[3] Nodal Protocol § 10.3.2.3(1).

[4] Nodal Protocol § 3.10.7.3

[5] 16 Tex. Admin. Code § 25.192(b)(1) ("TAC").

As oilfield load continues to grow in remote areas in the Permian Basin and Eagle Ford Shale, production and pipeline companies often struggle to obtain timely electric service. It is difficult from a technical perspective to serve large electric motors that are located far from a transmission line. Consequently, oilfield producers and pipeline companies are often forced to use fleets of small diesel generators while they wait for new transmission to be constructed, which can take years. As many oil producing areas are also suitable for windfarms and solar facilities, some oil producers have solved their interconnection issues by building their own generation and using PUNs to distribute the power throughout their oil and gas fields.

In recent years, generators have started pursuing behind-the-meter load in high congestion areas within ERCOT, such as the Panhandle and South Texas. Congestion lowers prices and can result in curtailment. The large amount of existing inverter-based generation in the Panhandle and South Texas has also resulted in ERCOT implementing generic transmission constraints that further increase curtailment risk. PUN load enables generators to ensure that they have an offtaker, to reduce curtailment risk, and to reduce congestion exposure.

III. Legal Standards

Several key legal standards apply in considering these relationships, most of which arise under Texas law:

- As a general matter, only a retail electric provider ("REP") may provide retail electric service to a retail customer; a power generation company ("PGC") may not directly serve an end-use customer. [6]

- A qualifying cogenerator, a type of qualifying facility ("QF") under the Public Utility Regulatory Policy Act ("PURPA"),[7] may sell energy to an end user that is also the QF's "thermal host."[8] Therefore, a PGC that is also a QF may sell power to an end user that is also its thermal offtaker.

- A PGC/Exempt Wholesale Generator ("EWG") may not own or operate transmission facilities for compensation, other than an essential interconnection facility.[9]

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[6] Tex. Util. Code Ann §§ 35.031, 31.002(7), 31.002 (10)(A), 37.001(3); 37.0521 ("PURA"); 16 TAC §§ 25.5(49), 25.5(82), 25.109(a).

[7] 16 U.S.C. §§ 796(18)(C) and 796(17)(D); PURA § 31.002(13).

[8] PURA §§ 31.002 (13) and 31.002(14).

[9] PURA §§ 39.157(b), 31.002(7) and 31.002(10)(B).

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