
Refunctionalization Of Transmission Assets Under FERC Order 888

Impact On Market Power

By

Whitfield A. Russell, P.E.

President

WHITFIELD RUSSELL ASSOCIATES

1225 I Street, N.W., Suite 850

Washington, D.C. 20005

202-371-8200; *fax*: 202-371-2520

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Numerous transmitting electric utilities have refunctionalized¹ a portion of their FERC-jurisdictional transmission assets to State-jurisdictional distribution assets. Some of the refunctionalizations have been massive. The impetus for refunctionalization is that the Federal Energy Regulatory Commission requires it under the seven factors established in Order 888. The underlying notion is that transmission facilities must be properly distinguished from distribution facilities in order to foster competition. However, the application of the seven factors by some utilities has anticompetitive consequences and, in particular, seems to be targeting (a) industrial customers that would qualify as transmission-only customers absent the refunctionalization as well as (b) inside-the-fence generation. It also may limit the facilities that an owner must transfer to the operational control of a Regional Transmission Organization.

Refunctionalization presents an opportunity for transmission owners to charge vastly different rates (and to offer delivery services on vastly different terms and conditions) to similarly situated retail and wholesale customers (both generators and consumers). Although the rationale for these differences is often cloaked in terms of “transmission” versus “distribution” and retail-versus-wholesale jurisdiction, the differences cannot be reconciled

¹ This paper uses the term “refunctionalization” to refer to the process by which facilities (and costs) in the transmission function are relabeled (and/or rebooked) as distribution or generation facilities (and costs). Many refer to this process as “reclassification,” but this paper adheres to the term “refunctionalization.” In Bonbright’s seminal work, “classification” is the process of separating costs between those that vary with energy (variable) and those that vary with capacity (fixed) whereas “functionalization” is the process preceding classification in which costs are separated by function (generation, transmission and distribution). In Bonbright’s parlance, the third and final separation of costs is called “allocation.”

with FERC's requirement that retail and wholesale transmission users be afforded comparable treatment.

Regulators have not examined refunctionalization and the abuses that accompany it with the rigor one might expect. This lack of rigor does not seem to be grounded in any failure on the part of regulators to appreciate the anticompetitive risks posed by refunctionalization. Although there are many possible explanations for this lack of rigor, two stand out:

1. Some State regulators seem to have been persuaded that all retail customers must be served through "distribution" in order for the regulators to retain their jurisdiction over retail sales and to ensure that stranded costs are collected. The argument that State jurisdiction arises from the non-resale nature of a retail transaction — and not from the label assigned to the last foot of wire connecting each customer to the utility — leaves some unconvinced. The possibility that new barriers to competition will be created by refunctionalization has been a distinctly secondary concern compared to the primary concern (of at least some States) with ensuring that stranded costs are collected without any possibility of bypass.
2. FERC has largely delegated to the States the task of refunctionalization and is understandably reluctant to second-guess the States.

Through refunctionalization, the utility can deny retail customers protections those customers would otherwise have under FERC's pro forma open-access transmission tariff ("OATT"). This is especially the case for retail customers connected to "transmission" facilities that are refunctionalized as "distribution" facilities. Once a transmission facility is refunctionalized to distribution, customers served from that facility lose the full panoply of rights in FERC's OATT, and States do not typically incorporate those rights in distribution tariffs governing access to the refunctionalized facility.

In the case of Commonwealth Edison ("ComEd") of Chicago, every retail customer becomes a distribution customer irrespective of the voltage at which that customer takes service — up to and including voltages of 345 kV.

And in several refunctionalizations, wholesale customers are also being switched from transmission service to distribution service.²

When a utility shifts delivery facilities from the transmission function to the distribution function, two regulatory jurisdictions (FERC and the State regulator) have a stake in the outcome. This situation has inspired transmitting utilities to propose some peculiar policies. For example, Sierra Pacific recognizes that the rate for delivery service over a distribution facility should be FERC jurisdictional when power flows over that facility from the transmitting utility into a wholesale customer. But Sierra Pacific contends that the rate for delivery service over such a facility should be Nevada jurisdictional (and be subject to a Nevada-determined distribution charge) when power flows in the opposite direction back toward the transmitting utility (from a PURPA Qualifying Facility, for example).

ComEd has refunctionalized about 40 percent of its net transmission plant, all but about 5 percent of which is refunctionalized to distribution. In rebuttal testimony, ComEd defended the high percentage of transmission that it refunctionalized by pointing out that other utilities refunctionalized equal or greater percentages of their net transmission plant. See the Rebuttal Testimony of Steven T. Naumann, P.E., Exhibit 6, ICC Docket No. 98-0894 at 6 citing 44 percent refunctionalized by Consumers Power, 48.13 percent by Ameren and 25 percent by Illinois Power.

In one situation on the ComEd system, even 345 kV facilities are relabeled as distribution. As a result of that refunctionalization, at least one industrial customer will pay more than \$100,000 per month in distribution charges to move across a few feet of radial 345 kV line. Those few feet of 345 kV line were reported to have an original cost of about \$100,000. Although the

² In the wholesale setting, distribution facilities are usually directly assigned to the relevant wholesale customer, and FERC has been relatively rigorous in controlling the costs collected on such directly assigned distribution facilities. The States are only beginning to deal with the pricing of delivery services to high-voltage customers. With some justification, those customers are concerned that they will be lumped with low-voltage customers for purposes of setting rates on delivery services and lose rights they now enjoy under FERC's OATT.

situation of this customer is extreme, the burdensome effect of its treatment is not unique.

Similarly, all ComEd delivery facilities connected to inside-the-fence, customer self-generation will be designated as distribution. By contrast, delivery facilities connected to ComEd generation (including those operating at voltages well below 345 kV) will remain in the transmission function and will be spared a distribution charge. As a consequence, all inside-the fence customer self-generation will be assessed a distribution surcharge when seeking access to ComEd's transmission system in order to make an off-system sale. No such surcharge will be imposed on an identical transaction involving ComEd's generation.

Sierra Pacific Power has refunctionalized about one-half of its transmission system (representing about one-third of the net plant value) in an action seemingly calculated to frustrate access to large mining loads and development of new power plants. As is the case with ComEd's industrial customers, all Sierra industrial customers will be deemed to be distribution customers irrespective of the magnitude of their individual loads or the voltage at which they take service.

Sierra refunctionalized an extensive network of 120 kV facilities serving large mining loads while retaining the transmission designation on 120 kV and 69 kV facilities connected to its power plants. Many facilities in this network:

- a.** Extend for dozens of miles throughout northeast Nevada;
- b.** Are paid for by the mines through facilities charges;
- c.** Loop a 345 kV system (is not radial, for the most part);
- d.** Are used by Bonneville for serving wholesale customers (that is, power flowing over these facilities is "reconsigned or transported on to some other market" in FERC's lingo); and
- e.** Possess other characteristics attributed to the transmission function in FERC's seven-factor test (high voltage, not in close proximity to loads, power on the facility flows in both directions, power entering the facility is not consumed in a comparatively restricted geographical area).

Through refunctionalization the utility also can deny wholesale customers and their ultimate customers protections those customers would otherwise have under FERC's rules, including the pro forma open-access tariff.

Wisconsin Public Service Corporation ("WPS") recently made a filing at the Wisconsin Public Service Commission. It had completed FERC's seven-factor test to determine which of its facilities are transmission and which are distribution and had purported to show that almost none of its existing facilities is transmission. WPS had used the analysis as a pretext to relabel almost their entire transmission system as "distribution facilities" and therefore not subject to FERC jurisdiction, Order No. 888, and FERC's comparability and nondiscrimination requirements. WPS's conclusion also would eliminate all established FERC protections on calculations of Available Transfer Capability, Capacity Benefit Margin, and load ratio share restrictions on transmission interface.

One element of the filing illustrates the magnitude of what WPS has done. Its filing declares that only 345 kV facilities qualify as transmission. WPS reported to the FERC in 1998 on its Form 1 (an annual report submitted to FERC) that 1,474 pole miles of facilities on WPS's system are transmission. These facilities currently are included in WPS's open-access tariff. Wholesale customers have had access to these facilities under the open-access tariff (and prior to that, under a predecessor tariff) for as long as WPS has provided transmission service. Under WPS's analysis, only 124 pole miles are still labeled as transmission. The remaining 1,350 miles are relabeled as distribution. Also, WPS has 33 interconnections with contiguous utility systems. These interconnections are the means of transferring power from one system to the other — the very essence of a transmission facility. Under WPS's proposal, only (at most) seven of the 33 interconnections would remain subject to FERC jurisdiction.³

³ Under statewide pressure, WPS has withdrawn its request of the Wisconsin Public Service Commission "so that it doesn't interfere with the [Wisconsin] Reliability 2000 legislation or the budget bill." September 17, 1999, press release.

Refunctionalization can be expected to produce the following consequences:

1. Total delivery costs to retail customers — both those now served at transmission levels and those served at distribution levels — will increase. This results from the fact that the annual cost of (and the losses on) each facility shifted from the transmission function to the distribution function:⁴
 - a. Will be collected across fewer billing determinants (that is, they will be collected from fewer customers than is the case today);
 - b. Can be collected through rate designs (such as 100 percent ratchets on non-coincident peak demands) that FERC would not tolerate; and
 - c. Will no longer benefit from any automatic rate adjustment that FERC or an Independent System Operator (“ISO”) would require on transmission service (such as the formula rate applicable to network transmission service).
2. After refunctionalization, industrial customers taking service at transmission voltages will now be compelled to pay distribution charges as well as transmission charges, thus facing a distribution surcharge for service and losses.

Customers have long been concerned with the problems created when system costs are collected in a manner that is not consistent with the imposition of costs on the system. For example, wholesale customers have often been charged for low-voltage facilities that contribute little or nothing to the high-voltage service they are receiving. Refunctionalization exacerbates the difficulties of quantifying those costs and of rectifying those problems, especially for retail customers that can expect to pick up those costs. These problems arise from the necessity of tracing shifts in rate base, depreciation, deferred taxes, facilities charges, revenue credits, operations and maintenance expenses, losses, administrative and general

⁴ Except for those that are directly assigned facilities or facilities assigned only to low-voltage customers.

costs, etc., that have never been traced before. And utility accounting systems are often not designed to help regulators trace those costs.

This problem is mitigated — but by no means eliminated — to the extent that individual utilities have a history of offering discounts to retail customers that take service at high voltage and to the extent those voltage discounts rigorously reflect cost causation. However, the maximum retail voltage discount offered on ComEd’s system is 10 cents per kW-month whereas voltage discounts of up to \$2.82 per kW-month (as well as a 3 percent reduction in losses) are offered to retail customers taking service at or above 138 kV on Ohio Power’s system.⁵

3. Transmission rates will be driven down substantially, but retail customers are unlikely to obtain any timely benefit from that decrease unless a formula transmission rate is implemented.⁶ In most cases, utilities elect not to file a formula rate but instead opt to file open-access tariffs with fixed transmission rates. This practice keeps transmission rates high even when usage of the transmission system increases. And transmission usage has been increasing.

Both network customers and point-to-point customers are hurt in the absence of formula rates. Growth in transmission usage should be reflected in both higher revenue credits in the rate numerator and greater loads in the rate divisor. Although FERC’s network rate automatically picks up load growth in the rate divisor, only a formula rate will reflect growth in both the rate numerator and the rate divisor.⁷

⁵ ComEd offers a discount for customer-owned transformers, but that is less than \$0.50 per kW-month.

⁶ A formula transmission rate automatically adjusts rates — both up and down — for changes in costs and usage of the transmission system. It is revealing that utilities often reject formula transmission rates even though such rates offer protection against increased costs, declining usage, and regulatory lag. On the other hand, utilities have urged the adoption of formula rates for determining such things as the market price of power and stranded cost recovery.

⁷ Retail customers are mostly network transmission customers — unless they specify otherwise in a request for unbundled transmission service. And all network

4. Reductions in FERC transmission rates can be expected to produce substantial increases in transmission revenues. Unless the utility files a formula transmission rate that automatically credits increased revenues to transmission user charges, it will pocket these increased revenues — at least until its rates are brought in line with its costs. The likelihood of a windfall to the utility is very high. For example, when American Electric Power (“AEP”) cut some of its transmission rates by about 50 percent in early 1996, its transmission revenues quintupled. And AEP has been experiencing increased transmission usage (and over-recovering on its investment in transmission) despite maintaining rates that are well in excess of what many consider to be supported by its cost of service.
5. As a result of lowering transmission rates (both for itself and for any ISO it joins), the utility realizes a higher price when divesting generation. That is, for any given market price for delivered power, the value of generation increases when the cost of delivering power from that generation goes down, at least to the extent that the market price is unaffected by the drop in transmission rates.
6. Under ComEd’s proposed refunctionalization guidelines, all inside-the-fence self-generation will be deemed to be on the distribution system. This policy will increase the cost of power from such producers that is sold into wholesale markets from any such generation. From the consumer’s perspective, it will hence drive up the price of power from inside-the-fence generation purchase options. ComEd’s policy is adhered to even if such self-generation is interconnected to it at high voltage levels and even if there

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customers — both retail and wholesale — are supposed to benefit from increased transmission usage even in the absence of formula rates. That is, FERC’s OATT requires that the rate divisor for network customers be composed of the 12-month rolling average of the 12 Coincident Peaks of network customers plus the amount of long-term firm reservations on the system of the transmission provider. However, many retail rates are fixed under rate moratoria or State restructuring statutes. Thus, retail customers in a restructured environment with retail access often do not obtain even the rate-divisor benefits they should obtain as network customers. One wonders why States are allowed to freeze rates for network transmission service that FERC mandates should be adjusted for changes in system usage.

is a positive net flow outward from the self-generation site. Under ComEd's guidelines, if any self-generator attempts to sell its output to a neighboring industrial over distribution-only lines, those lines will be re-functionalized back to transmission, creating pockets of transmission plant as islands within the distribution system. This schizophrenic policy is targeted at any self-generator that may be tempted to avoid paying for transmission service (while paying nonetheless for distribution service) in delivering power to a nearby customer by means of distribution-only facilities.

7. Refunctionalization presents an opportunity to double-collect on losses. A recent Sierra Pacific filing presents an example of the potential for double recovery of losses. Despite refunctionalizing about 50 percent of its transmission facilities (mostly older, lower voltage facilities with higher-than-average losses), Sierra did not adjust its 3.4 percent adjustment for losses. Intuitively, one would expect the loss percentage to decline precipitously.⁸

FERC directives regarding “refunctionalization” may inadvertently stir up new disputes over the “bright line” that has been drawn presumptively between state (retail) and federal (wholesale) jurisdiction. Refunctionalization in effect moves that line. The line had already become a little less bright when the U.S. Supreme Court determined more than a decade ago that the line between retail and wholesale regulation is not necessarily a line for purposes of the Commerce Clause. (*Arkansas Elec. Coop v. Arkansas Public Service Commission*, 461 U.S. 375, 177-180, 389-93 (1983))⁹

⁸ The losses that should be reflected in the numerator of the loss percentage would drop to the level recorded on the 50 percent of the facilities remaining in the transmission function. By contrast, the load in the denominator of the loss percentage would remain the same.

⁹ The commerce clause issue was raised when Indianapolis Power and Light Company (“IPALCO”) challenged the Pennsylvania Public Utility Commission order (177 PUR4th 417 (1998)) and the affirming Commonwealth Court ruling (711 A2d 1071). The Pennsylvania Supreme Court denied (October 1, 1998) IPALCO's Petition for Allowance of Appeal. IPALCO's petition to the U.S. Supreme Court was also denied. However, the topic — Commerce Clause and agency jurisdiction — is very much present in the “refunctionalization” under way as the industry restructuring continues.

In summary, electric utilities are applying the FERC seven-factor test in a manner that enhances their market power, increases their profits on generation divestitures, and shelters vast amounts of their retail market from the protections embodied in FERC's pro forma open-access transmission tariffs. One can only wonder what the broader implications of this practice will be for the development and likelihood of success of newly forming Regional Transmission Organizations.

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IPALCO's December 28, 1998, petition to the U.S. Supreme Court for writ of certiorari (Case No. 98-1065) presented this question:

Whether the "stranded cost" provisions of Pennsylvania's Electric Generation Customer Choice and Competition Act, 66 Pa. Cons. Stat. §§ 2801 et seq., violate the Commerce Clause of the United States Constitution in requiring the State's retail electric customers, including those who buy electricity generated by an out-of-state producer, to pay a surcharge to subsidize the competing, formerly monopoly Pennsylvania utility for its uneconomic costs of producing electricity.

The Pennsylvania law provided in part that the incumbent utilities "must provide open access over their transmission and distribution systems to allow competitive suppliers to generate and sell electricity directly to consumers in this Commonwealth." (*Id.* § 2802(14))

The Commonwealth Court held the view that a state law deregulating economic activity does not implicate the Commerce Clause, and found support for its actions in the fact that FERC permitted stranded cost recovery at the federal (wholesale) level. Here, the FERC has initiated what seems to be intended as a largely mechanical effort to separate wholesale from retail facilities. There should be no opportunity present to subvert the move to competition by erecting artificial cost barriers.