

**OVERVIEW OF THE WIDELY USED FCC POLE RATE FORMULA  
METHODOLOGY AS APPLIED TO THE UNIFIED POLE ATTACHMENT RATE  
FORMULA ADOPTED IN DT-12-084, ORDER NO. 25,453**

The Unified Pole Attachment Rate Formula adopted as part of a settlement in a 2012 dispute between Public Service Company of New Hampshire (d/b/a Eversource) and Time Warner Cable in DT-12-084 in Order No. 25,453 dated January 17, 2013 is based upon the Federal Communications Commission (FCC) pole rate formula methodology. The “Unified Rate Formula” adopted in DT-12-084 is so named because it applies to pole attachments without regard to the type of communications service the attachment is used to provide (i.e., telecommunications services or cable service), and consists of the following three major components: (1) the net investment per bare pole, (2) a carrying charge factor (used to convert the net cost per bare pole figure into an annual rental amount), and (3) a space allocation factor (i.e., the percent of pole capacity attributable to the attacher) that determines the percent of the pole owner’s fully allocated costs recoverable from the attacher. Expressed as an equation, the FCC formula methodology is the straightforward multiplication of these three components as follows:

**FCC Pole Rate Formula Methodology =**

$$\text{Net Bare Pole Cost (NBP)} \times \text{Carrying Charge Factor (CCF)} \times \text{Space Allocation Factor (SAF)}$$

There are two formulations of the FCC pole rate formula applied at the federal level pursuant to the 1996 Telecom Act (but not binding on states such as New Hampshire which have self-certified to regulate pole rates): one applicable to cable operators (“cable formula”), and one for telecommunications carriers (“telecom formula”). Under the FCC rules, the cable and telecom formulas are calculated in exactly the same manner as to the first two components of the rate formula, i.e., the net bare pole cost and the carrying charge factor. Both of these components are calculated in a straightforward but multistep process. While the two formulas historically differed as to the third component, i.e., the space allocation factor, changes adopted by the FCC in a 2015 decision conformed them so that there is effectively no difference between the two

formulations under current rules.<sup>1</sup> As noted above, the Unified Rate Formula was adopted in January 2013 and accordingly, as initially applied, calculated the space allocation factor under the old (pre-2015) FCC rules concerning the usable space factor described below.

### **Net Bare Pole Cost:**

The net bare pole cost (NBP) is calculated in the following four steps: First, the pole owning utility's *gross* investment in pole cost is determined based on amounts reported in the utility's books of account in Federal Regulatory Energy Commission (FERC) Account 364 ("Poles, Towers and Fixtures") as reported in the utility's FERC Form 1. The corresponding figure of a telephone utility's is based on amounts reported on the FCC's ARMIS Annual Summary Report, Table III - Pole and Conduit Rental Calculation Information," Line 101.<sup>2</sup> Second, this gross investment amount is converted to a *net* investment figure by subtracting accumulated depreciation for pole plant and accumulated deferred taxes applicable to poles. Third, the net investment in *bare* pole plant is determined by making a further reduction to remove amounts booked to Account 364 for "appurtenances," such as cross-arms or other non-pole related apparatus, from which communications attachers do not benefit. The fourth and final step is to divide the net investment in bare pole plant figure by the total number of poles the utility has in service to derive a *per-unit* pole cost figure. It is this unitized net investment figure that the formula multiplies by the other two components of the formula (i.e., the carrying charge factor and the space allocation factor) to derive the maximum pole rental rate.

### **Carrying Charge Factor**

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<sup>1</sup> See *In the Matter of Implementation of Section 224 of the Act; A National Broadband Plan for Our Future, Order on Reconsideration*, 30 FCC Rcd 13731 at ¶ 1 (Nov. 24, 2015) (WC Docket No. 07-245, GN Docket No. 09-51) (2015 Order on Reconsideration).

<sup>2</sup> The ARMIS Annual Summary Report requiring pole attachment rental calculation information is part of the FCC's "Automated Reporting Management Information System." The ARMIS was initiated in 1987 to facilitate the collection of financial and operational data from the largest local exchange carriers and later, expanded by the FCC to collect more comprehensive service and network infrastructure data from local exchange carriers subject to price cap regulation. While, effective January 2015, the FCC granted carriers forbearance from their ARMIS reporting obligations, it is my understanding that many telecom providers continue to submit the pole attachment data corresponding to the ARMIS report 43-01 as part of a transmittal in the FCC's Electronic Comment Filing System (ECFS) captioned as CC Docket 86-182.

The carrying charge factor (CCF) is used to convert the net cost per bare pole investment figure into an annualized cost. The carrying charge factor is comprised of the sum of five expense factors including maintenance, depreciation, administrative, taxes, and overall rate of return, each expressed as a percentage of expense to net plant in service. The CCF includes a wide range of capital and operating expenses of the utility, including those not directly related to poles. This is consistent with the FCC's use of "fully allocated cost" approach to pole rates – the upper range of the just and reasonable rates allowed pursuant to 47 U.S. Code Section 224 (the section of the Federal Communications Act dealing with pole attachments).

The appropriate net plant in service figure used to calculate the various elements of the CCF varies on the level of aggregation with which the relevant expense data used in the numerator of the calculation is tracked in the FERC reporting system or utility books of account. The important principle to follow is one of consistency between the level of aggregation of the expense data and the level of aggregation of the net plant investment figure. For example, if the expense is reported on an aggregate utility basis, as is the case with tax expenses, then the denominator of the expense ratio used in the calculation is total utility net plant in service. For maintenance expense for electric utilities, the expense is tracked at the level of the three overhead line FERC Accounts 364, 365, and 369, such that the denominator is net plant in service for those three accounts. For telephone utilities, the ARMIS reports the expenses allocated to pole plant such that the denominator is pole plant in service for the various expense factors. Once calculated, these five expense elements are then summed together prior to being multiplied against the net cost per bare pole component.

The expense amounts used to calculate the formula are those in specific FCC designated accounts as publicly tracked and reported on the FERC Form 1 for electric utilities and the FCC ARMIS reporting system for telephone utilities.<sup>3</sup>

### **Space Allocation Factor (Percentage of Fully Allocated Costs Recoverable from Attachers)**

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<sup>3</sup>See C.F.R. Title 47, Part 1, Subpart J.

As noted above, the two FCC rate formulas (i.e., Cable and Telecom) derive a recurring pole attachment rental rate by multiplying the same three basic formula components: net bare pole cost, carrying charge factor, and space allocation factor. The two differ in the calculation of the space allocation factor and, in particular, the manner in which the Telecom formula (and the DT-12-084 Unified Rate Formula which is based on the Telecom formula), allocates the costs associated with the *unusable* space on the pole.

Whereas the Cable Formula assigns costs relating to the entire pole – including both usable and unusable space – on the basis of a proportionate-use allocator, i.e., 1 foot occupied space / total usable space on the pole (which under FCC rebuttable presumptions is calculated as  $1/13.5 = 7.41\%$ ), the Telecom and DT-12-084 Unified Rate Formulas assign the cost of usable space on the pole based on the proportionate share of usable space occupied by the attacher (exactly the same as the Cable Formula), but assigns costs relating to the unusable space on the pole using a per-capita allocator.

The allocation of unusable space has evolved over time with the growing recognition by federal and state regulators of the vital role of broadband service and the detrimental impacts on the public interest that the charging of excessive pole rents has on the deployment of broadband services. As originally prescribed in the 1996 Telecom Act, the Telecom Formula assigned 2/3 of the unusable space on the pole equally by the number of attaching entities. Assuming the FCC rebuttable presumption of 3 attaching entities for non-urbanized areas applicable to New Hampshire, the original Telecom formula applied a space allocator factor of 16.89%. Both federal and state regulators alike, found the use of the 1996 formula resulted in rates well in excess of efficient cost levels and that serve to place a damper on broadband deployment, competition and the widespread availability and adoption of advanced broadband services.

This growing recognition led the FCC to adopt a revised formula in April 2011. In its April 7, 2011 Order, the FCC adopted a new Telecom Formula that included cost reduction factors for purposes of aligning the rate produced by the Telecom Formula with that produced by the Cable Formula. Specifically, the FCC adopted a definition of cost for urbanized areas as “66 percent of the fully allocated costs used for purposes of the pre-existing telecom rate,” and a

definition of cost for rural or non-urbanized areas as “44 percent of the fully allocated costs,” where fully allocated cost is defined as net bare pole cost times carrying charge factor (i.e., the first two components of the rate formula for both cable and telecom formulas).<sup>4</sup>

The 2011 Revised Telecom Formula - the version of the Telecom Formula that the DT-12-084 Unified Rate Formula adopted in 2013 was based upon - is summarized formulaically as follows:

**Revised 2011 FCC Telecom Rate Formula Applicable to Eversource:**

***Net Bare Pole Cost x Carrying Charge Factor x Space Allocation Factor [Usable Space Percentage + Unusable Space Percentage] x Cost Factor*** where:

Usable Space Percentage =

(Space occupied by attacher / Usable Space) x (Usable Space/Pole Height);

Unusable Space Percentage = 2/3 x (Unusable / Pole Height) x (1/No. Attachers); and

Cost Reduction Factor applicable to non-urbanized areas = .44

Under the 2011 definition of cost and FCC presumptive values (i.e., for pole height and usable space on the poles), the percentage of fully allocated costs allocated under the revised telecom rate, 7.43% under the standard presumptions (.44 x 16.89%) approximately equals that allocated under cable, i.e., 7.41% (1/13.5%). Per settlement, the DT-12-084 Unified Rate Formula used a number of attaching entities value of 2.7 (as compared to the FCC presumptive value of 3), which increased the unusable space percentage from 14.22% to 15.80% (the usable space percentage of 2.67% remained unchanged) for a total space allocation factor of 18.47% (as compared to the FCC presumptive 16.89%). After applying the .44 cost reduction factor for non-urbanized areas, the percentage of fully allocated costs applied in the DT-12-084 Unified Rate was 8.13% (18.47% x .44 = 8.13%) – as compared to the FCC presumptive value of 7.43%.

<sup>4</sup> See *Implementation of Section 224 of the Act; A National Broadband Plan for Our Future*, WC Docket No. 07-245, GN Docket No. 09-51, Report and Order and Order on Reconsideration, 26 FCC Rcd. 5240, 5301, ¶ 149 (Apr. 7, 2011) (“2011 Pole Attachment Order”), *aff’d sub. nom. Am. Elec. Power Serv. Corp. v. FCC*, 708 F.3d 183 (D.C. Cir. 2013) (“AEP”).

In 2015, in its Order on Reconsideration, the FCC made a further refinement to the cost reduction factor to better achieve its stated objection of harmonizing the cable and telecom formulas. Specifically, the FCC revised its previously adopted fixed factors to allow these factors to vary in order to bring the Telecom formula into better cost causative alignment with the proportionate-based cable rate formula, noting rates produced by the revised Telecom formula could be as much as 70 percent higher than cable rates.<sup>5</sup> These further revisions were also expressly motivated by the FCC's desire to incent the deployment of broadband infrastructure especially in non-urbanized underserved areas, with the FCC noting its concern that subjecting cable operators to higher, inefficient pole attachment rates merely because they "also provide telecommunications services including broadband Internet access could defer investment...which would undermine the Commission's broadband deployment policy."<sup>6</sup>

As applied to the settled value of 2.77 number of attaching entities under the DT-12-084 Unified Rate Formula but otherwise using FCC presumptive values (i.e., pole height and usable space on the pole), the current FCC rules would result in a cost reduction factor of 39.6% versus the presumptive .44% applicable to the presumptive 3.0 attaching entities, for a corresponding allocation of fully allocated costs of 7.31% ( $18.47 \times .396$ ) versus the 8.13% derived under the now superseded 2011 rules.

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<sup>5</sup> See *id.* at ¶ 3. ("When the average number of attaching entities is a fraction, the percentage cost allocator will be located between the whole numbers at the point where it most closely approximates the cost used in the cable rate formula. This flexible series of cost allocators should more fully realize the intent of the Commission in its *2011 Pole Attachment Order* to bring parity to pole attachment rates at the cable rate formula level.")

<sup>6</sup> See *id.* at ¶ 4.

**Current 2015 FCC Telecom Rate Formula As Applied to Eversource:**

*Net Bare Pole Cost x Carrying Charge Factor x Space Allocation Factor [Usable Space Percentage + Unusable Space Percentage] x Cost Factor* where:

Usable Space Percentage =

(Space occupied by attacher / Usable Space) x (Usable Space/Pole Height);

Unusable Space Percentage =  $2/3 \times (\text{Unusable} / \text{Pole Height}) \times (1/\text{No. Attachers})$ ; and

Cost Reduction Factor applicable to Eversource =  $.44 \times [1 - (2.7 - 3)/3] = .396$