

STATE OF NEW HAMPSHIRE
Before the
PUBLIC UTILITIES COMMISSION

ORIGINAL	
N.N.P.U.C. Case No.	DT 12-084
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Witness	P. Kravtin - E. Davis
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Time Warner Entertainment Company L.P.
d/b/a Time Warner Cable

Petition for Resolution of Dispute with
Public Service Company of New Hampshire

DT 12-084

PREFILED DIRECT TESTIMONY OF

PATRICIA D. KRAVTIN

ON BEHALF OF

TIME WARNER ENTERTAINMENT COMPANY L.P. d/b/a TIME WARNER CABLE

COMCAST CABLE COMMUNICATIONS MANAGEMENT, LLC

COMCAST OF NEW HAMPSHIRE, INC.

COMCAST OF MASSACHUSETTS/NEW HAMPSHIRE, LLC

AND COMCAST OF MAINE/NEW HAMPSHIRE, INC.

July 20, 2012

Table of Contents

INTRODUCTION 1
 Qualifications 1
 Assignment and Purpose of Testimony 5
 Executive Summary 5

APPROPRIATE METHODOLOGY FOR DETERMINING JUST AND REASONABLE
POLE ATTACHMENT RATES PURSUANT TO NH RSA 374:34-a AND PUC 1304.06 11

APPLICATION OF THE PUC’S SIX FACTOR RATE REVIEW STANDARD 15
 Factor 1: Relevant federal, state or local laws, rules and decisions 16
 Factor 2: The impact on competitive alternatives 21
 Factor 3: The potential impact on the pole owner and its customers 23
 Factor 4: The potential impact on the deployment of broadband services 27
 Factor 5: The formulae adopted by the FCC in 47 C.F.R. § 1.1409(c) through (f) in
 effect on July 16, 2007 31
 Factor 6: Any other interests of the subscribers and users of the services offered via
 such attachments or consumers of any pole owner providing such attachments, as may
 be raised 34

FCC RATE FORMULA METHODOLOGY 37
 Major Components of the FCC Pole Rate Formula 38
 Cable Rate Formula 41
 Differences with Old Telecom Rate Formula 46
 Revised Telecom Rate Formula 48

DETERMINATION OF JUST AND REASONABLE UNIFIED BROADBAND POLE
ATTACHMENT RATES FOR PSNH AND UNITIL 52
 Application of the FCC Cable Rate Formula to PSNH and Unitil 52
 Application of the FCC Revised Telecom Formula to PSNH and Unitil 63

CONCLUSION 70

List of Tables

1: Maximum Just and Reasonable Pole Attachment Rates for PSNH10

2: Maximum Just and Reasonable Pole Attachment Rates for Unutil.....10

3: Maximum Just and Reasonable Unified Broadband Pole Attachment Rates for PSNH and Unutil under the FCC Cable Rate Formula.....55

4: Comparison of Maximum Just and Reasonable Unified Broadband Pole Attachment Rates with Rates Calculated by PSNH65

5: Comparison of Maximum Just and Reasonable Unified Broadband Pole Attachment Rates with Rates Calculated by Unutil69

List of Attachments

1: Detailed Resume

2: Calculations of Maximum Just and Reasonable Pole Attachment Rates for PSNH

3: Calculations of Maximum Just and Reasonable Pole Attachment Rates for Unutil

1 **INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.**

3 A. My name is Patricia D. Kravtin. I am an economist in private practice specializing in the
4 analysis of telecommunications and energy regulation and markets. My business address is
5 57 Phillips Avenue, Swampscott, Massachusetts.

6 **Qualifications**

7 **Q. PLEASE DESCRIBE YOUR PROFESSIONAL AND EDUCATIONAL**
8 **BACKGROUND.**

9 A. I received a B.A. with Distinction in Economics from the George Washington University.
10 I studied in the Ph.D. program in Economics under a National Science Foundation Fellowship at
11 the Massachusetts Institute of Technology (M.I.T.). My fields of concentration at M.I.T. were
12 government regulation of industry, industrial organization, and urban and regional economics.
13 My professional background includes a wide range of consulting experiences in regulated
14 industries. Between 1982 and 2000, I was a consultant at the national economic research and
15 consulting firm of Economics and Technology, Inc. (ETI) in that firm's regulatory consulting
16 group, where I held positions of increasing responsibility, including Senior Vice President/Senior
17 Economist. Upon leaving ETI in September 2000, I began my own consulting practice
18 specializing in telecommunications, cable, and energy regulation and markets.

19 I have testified or served as an expert witness on telecommunications matters in
20 proceedings before over 30 state, provincial, and federal regulatory commissions, including the
21 Federal Communications Commission ("FCC"), the Federal Energy Regulatory Commission
22 ("FERC"), the Canadian Radio-television and Telecommunications Commission ("CRTC") and

1 the Ontario Energy Board. In addition, I have testified as an expert witness in litigation before a
2 number of state and federal district courts on matters relating to telecommunications
3 competition, market power, and barriers to entry, and concerning access and use of poles,
4 conduits, and public rights-of-way. I have also testified before a number of state legislative
5 committees and served as advisor to a number of state regulatory agencies.

6 **Q. PLEASE DESCRIBE YOUR EXPERIENCE OF PARTICULAR**
7 **RELEVANCE TO THIS PROCEEDING.**

8 A. Over the course of my career, I have been actively involved in a number of state and
9 federal regulatory commission proceedings involving cost methodologies and the allocation of
10 costs of incumbent local exchange carriers (“ILECs”) and electric utilities. One local network
11 component, essential for the provision of competitive communications services, with which I am
12 also very familiar, is access to poles, ducts, conduits, and rights-of-way. I have testified
13 extensively on matters pertaining to these essential facilities before state and federal regulatory
14 agencies and district courts, including those in Florida, New York, California, Washington, and
15 North Carolina.

16 I have submitted reports in pole proceedings before the FCC, including both rounds of its
17 most recent pole rulemaking proceeding, *Implementation of Section 224 of the Act; A National*
18 *Broadband Plan for our Future*, Opinion and Further Notice of Proposed Rulemaking, 25 FCC
19 Rcd 11864 (2010) (“FCC 2010 FNRPM”) and *Implementation of Section 224 of the Act;*
20 *Amendment of the Commission’s Rules and Policies Governing Pole Attachments*, 22 FCC Rcd
21 20195 (2007). In 2006, I submitted testimony and was subject to live cross-examination before
22 the FCC’s Chief Administrative Law Judge, on issues pertaining to utility compensation for pole

1 attachments in *Florida Cable Telecommunications Association, Inc., et al. v. Gulf Power*
2 *Company*, Initial Decision, 22 FCC Rcd 1997 (2007), *aff'd*, *FCTA v. Gulf Power*, 26 FCC
3 Rcd 6452 (2011) (“*FCTA*”). I also submitted a declaration in the FCC’s earlier pole attachment
4 proceeding, CS Docket No. 97-98. Additionally, I submitted testimony before the FCC in pole
5 attachment complaint proceedings brought against electric utilities Gulf Power and Dominion
6 Virginia Power.

7 I have served as an expert or advisor on pole attachment matters in proceedings involving
8 investor-owned utilities, non-profit consumer-owned utilities, and municipally-owned utilities,
9 and before various state (and provincial) regulatory commissions including the Kentucky Public
10 Service Commission, the Arkansas Public Service Commission, the Public Utilities Commission
11 of Texas, the Georgia Public Service Commission, the South Carolina Public Service
12 Commission, the Public Service Commission of the District of Columbia, the New Jersey Board
13 of Public Utilities, the New York Public Service Commission, the Virginia Corporation
14 Commission, the Ohio Public Utilities Commission, and the Ontario Energy Board. I have also
15 testified on matters pertaining to access to poles and conduit of ILECs in proceedings before the
16 Georgia Public Service Commission, the South Carolina Public Service Commission, the Public
17 Service Commission of the District of Columbia, and the New York Public Service Commission.

18 I have also been actively involved in related issues pertaining to broadband deployment.
19 I have authored a number of reports dealing with this subject and participated as a grant reviewer
20 for the Broadband Technology Opportunities Program (“BTOP”) administered by National
21 Telecommunications and Information Administration (“NTIA”).

1 **Q. HAVE YOU TESTIFIED PREVIOUSLY BEFORE THE NEW**
2 **HAMPSHIRE PUBLIC UTILITY COMMISSION ?**

3 A. Yes. I submitted written pre-filed testimony before the New Hampshire Public Utility
4 Commission (“PUC” or “Commission”) in the Commission’s *Generic Competition Proceeding*,
5 Docket No. DR 90-002, on behalf of the Office of the Consumer Advocate, filed May 1, 1992
6 (direct), July 10, 1992 (reply), and August 21, 1992 (surrebuttal). My testimony in that
7 proceeding addressed the economics of monopoly bottleneck toll and switched access services,
8 and the design and implementation of intrastate access charges.

9 **Q. HAVE YOU PREPARED A SUMMARY CONTAINING DETAILS OF**
10 **YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE?**

11 A. Yes, I have. A detailed resume summarizing my training, previous experience, and prior
12 testimony and reports is provided as Attachment 1 to this testimony.

13 **Q. WHAT HAVE YOU RELIED UPON IN PREPARING THIS TESTIMONY?**

14 A. I have relied on my education, training, research, and experience in economic analysis,
15 and my prior experience in the areas of telecommunications and utility regulation as outlined
16 above and further detailed in Attachment 1. I have considered various data and information in
17 forming my opinions, including data available on the Federal Energy Regulatory Commission
18 (“FERC”) Form 1 for Public Service Company of New Hampshire (“PSNH”) and Unitil Energy
19 Systems, Inc. (“Unitil”), and the June 8, 2012 PSNH filing and the June 13, 2012 Unitil filing
20 submitted in this matter.

1 **Assignment and Purpose of Testimony**

2 **Q. PLEASE DESCRIBE YOUR ASSIGNMENT AND THE PURPOSE OF**
3 **YOUR TESTIMONY.**

4 A. I was asked by counsel for Time Warner Cable (“TWC”) and for Comcast Cable
5 Communications Management, LLC, Comcast of New Hampshire, Inc., Comcast of
6 Massachusetts/New Hampshire, LLC and Comcast of Maine/New Hampshire, Inc. (collectively
7 “Comcast”) to provide testimony on matters raised in this proceeding concerning the appropriate
8 methodology for determining just and reasonable rates for the attachments of cable television
9 service providers to poles owned by incumbent electric utilities pursuant to New Hampshire
10 Revised Statutes Annotated RSA 374:34-a (“RSA 374:34-a”) and the six factor rate review
11 standard set forth in N.H. Code Admin. R. Puc 1304.06 (“PUC 1304.06”), from an economic and
12 public policy perspective. As part of my assignment, I was asked to analyze the pole formula
13 calculations submitted by PSNH and other intervening utilities including Unittel, and to offer my
14 opinions regarding the utilities’ rate calculations as well as their specific application of the rate
15 formula methodology in the context of the applicable rate review standards.

16 **Executive Summary**

17 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

18 A. My testimony describes the numerous economic and public policy rationales in support
19 of setting pole attachment rates that utilities may charge cable companies – for both traditional
20 cable and advanced broadband services, including interconnected Voice over Internet protocol
21 (“VoIP”) services – as well as competitive local exchange carriers (“CLECs”), based on a
22 unified broadband pole rate formula equal to the existing FCC cable rate formula. My testimony

1 explains why the existing FCC cable rate formula is by far the most appropriate and by far the
2 best methodology for determining maximum just and reasonable rates for pole attachments
3 pursuant to the governing pole attachment regulation in New Hampshire, RSA 374:34-a and
4 PUC 1304.06.

5 The advantages of the cable rate formula are many. First and foremost, the cable formula
6 is designed in a manner that is fully consistent and transparent with respect to the underlying
7 economic theory, including the principles of cost causation and economically efficient marginal
8 cost pricing. It also offers the practical advantages of being applied in a very simple,
9 expeditious, and unified manner that is less administratively burdensome than the telecom rate
10 formula.

11 Not only does the cable rate formula produce a result that is more economically efficient
12 than the old telecom rate formula, and more straightforward than either the old or revised
13 telecom formula, it also produces one that is fair to pole owning utilities and their ratepayers. In
14 particular, the rates derived using the cable formula (and especially including make-ready
15 charges that apply in addition to the formula rate) are much more than fully compensatory to the
16 pole owner in that they make a contribution over and above economically efficient prices, and
17 have been proven over time not to affect the utilities' investment in pole plant. Indeed, for the
18 reasons discussed in this testimony, pole owners and their customers stand to be made much
19 better off after attachments are made at rates set under the cable formula than if no such
20 attachments are made.

21 Given pole attachments are a vital input for the delivery of broadband services, the
22 combination of these key attributes makes the cable rate formula best suited to promote the

1 widespread deployment of advanced broadband services and competition in the increasingly
2 convergent communications industry where cable, telecommunications, and potentially electric
3 utility companies (or their affiliates) compete for the same customers in the voice, video,
4 broadband data and wireless marketplaces. This finding is one that has been explicitly
5 recognized by the FCC and the majority of certified states who have adopted a unified approach
6 for setting pole attachment rates based on the cable rate formula or a close variation of it. The
7 fact that the PUC's final rules specifically identify the potential impact on the deployment of
8 broadband services as one of the rate review criteria, would, in my opinion, make it difficult to
9 justify from an economic and public policy viewpoint a rate formula other than the cable rate
10 formula or a formula that produced a rate very close to the cable rate, and applied to pole
11 attachments of all kinds and across the spectrum of broadband services providers to the extent
12 allowed by applicable law.

13 As part of the 1996 amendments to the Communications Act, the FCC was directed to
14 implement two separate formulas when Congress extended access to utility poles at just and
15 reasonable rates beyond cable operators to include telecommunications service providers. The
16 PUC, however, is not similarly constrained. The adoption of a bifurcated pole rate formula
17 approach introduces a number of unnecessary complications and areas of potential dispute
18 among the parties into the rate setting process (e.g., number of attaching entities, amount of
19 unusable space on poles, classification of "cable" versus "telecom attachments,") with no
20 measurable offsetting economic or public interest benefit. To the contrary, from an economic
21 and public policy perspective, a bifurcated rate formula approach runs directly counter to widely-

1 accepted critical public policy goals of encouraging deployment of advanced broadband services
2 and promoting robust competition.

3 Indeed, these findings were the basis of the FCC’s decision in April 7, 2011 to adopt a
4 new, revised telecom formula, designed to produce rates as close to the cable rate as possible.
5 *Implementation of Section 224 of the Act, Report and Order and Order on Reconsideration, 26*
6 *FCC Rcd 5240 (2011)* (“April 7, 2011 Order”). While definitely superior to the old telecom
7 formula, since the new formula is intended to produce rates roughly equivalent to the cable rate,
8 there is no real purpose served by adopting it at the state level, where there is no legal
9 requirement to do so, as is the case here in New Hampshire. Indeed, the vast number of other
10 states who have exercised jurisdiction over poles have not adopted a bifurcated rate setting
11 approach, and in almost all instances where a specific rate formula was adopted for cable and
12 telecommunications attaching entities, that rate formula was the FCC cable rate or slightly
13 modified version.

14 My testimony provides specific rate results for pole attachment rentals derived from a
15 proper application of the FCC cable rate formula for PSNH and Unitil using data for the years
16 2010 and 2011, respectively, provided by the utilities, in addition to data publically reported by
17 the utilities on FERC Form 1. Those results are presented in Table 1 (for PSNH) and Table 2
18 (for Unitil) on the following page.

19 My testimony also provides specific rate results calculated for PSNH and Unitil (see
20 Tables 1 and 2 below) using the revised FCC telecom formula should the PUC decide to adopt a
21 bifurcated pole rate formula approach. For the reasons described in my testimony and outlined
22 above, adoption of a bifurcated pole rate formula approach which applies the FCC cable rate

1 formula to attachments classified as “cable” and the revised FCC telecom formula to attachments
2 classified as “telecom” would be a second best option for the PUC in determining just and
3 reasonable rates that utilities may charge eligible broadband services providers for pole
4 attachments as compared with the best option of adopting a unified, rate setting approach using
5 the cable rate formula.

6 Both PSNH and Unitil have proposed bifurcated rate formula approaches. In addition to
7 their reliance on an inferior bifurcated approach to rate setting, both utilities’ calculations contain
8 serious flaws, either in the data inputs used to run the formulas, or in the manner in which the
9 rate formulas themselves are applied. PSNH in particular applies the FCC’s old, now discarded
10 telecom formula, which, for the reasons summarized above, produces rates far in excess of
11 economically efficient levels and are thus counter productive to attainment of widely-accepted
12 public policy goals. Unitil correctly applies the FCC’s new, revised telecom formula, but
13 includes a number of cost accounts not included in the FCC formula approach. More
14 significantly, Unitil disaggregates costs as between solely owned and jointly owned poles in a
15 manner that creates an artificial, highly distorted distinction between the two categories of poles
16 and that produces an unjustifiably high and economically unreasonable pole attachment rate for
17 solely owned poles.

18

Table 1 PSNH Maximum Just and Reasonable Unified Broadband Pole Attachment Rental Rate Under FCC Cable and Revised Telecom Formula			
PSNH Based on Year End 2010 Data	Cable	New Telecom 3 AE	Revised Telecom 5 AE
Net Investment Per Bare Pole	\$387.02	\$387.02	\$387.02
x Carrying Charges	35.12%	35.12%	35.12%
x Space Factor*	7.41%	16.89%	11.20%
x Cost Factor**	n/a	.44	.66
Maximum J&R Solely-Owned Pole	\$10.07	\$10.05	\$10.10
Maximum J&R Jointly-Owned Pole	\$5.03	\$5.03	\$5.04
*Calculated using FCC presumptive values for space factor (13.5ft usable space on 37.5 ft. pole), and FCC cost factors linked to FCC presumptions for space and number of attaching entities (“AE”)- 3 non-urbanized, 5 urbanized.			

1

Table 2 Unitil Maximum Just and Reasonable Unified Broadband Pole Attachment Rental Rate Under FCC Cable and Revised Telecom Formula			
Unitil Based on Year End 2011 Data	Cable	New Telecom 3 AE	Revised Telecom 4 AE
Net Investment Per Bare Pole	\$487.70	\$487.70	\$487.70
x Carrying Charges	31.51%	31.51%	31.51%
x Space Factor*	7.24%	16.71%	13.20%
x Cost Factor*	n/a	.433	.548
Maximum J&R Solely-Owned Pole	\$11.12	\$11.12	\$11.12
Maximum J&R Jointly-Owned Pole	\$5.56	\$5.56	\$5.56
*Calculated using Unitil’s space factor (13.82 usable space on 37.57 ft. pole), and appropriate FCC cost factors for Unitil’s space factors and assumed number attaching entities (“AE”).			

2

1 **APPROPRIATE METHODOLOGY FOR DETERMINING JUST AND REASONABLE**
2 **POLE ATACHMENT RATES PURSUANT TO NH RSA 374:34-a AND PUC 1304.06**

3 **Q. HAVE YOU MADE A DETERMINATION OF THE MOST APPROPRIATE**
4 **METHODOLOGY FOR DETERMINING MAXIMUM JUST AND REASONABLE POLE**
5 **ATTACHMENT RATES THAT UTILITIES MAY CHARGE CABLE COMPANIES AND**
6 **OTHER ELIGIBLE ATTACHERS IN NEW HAMPSHIRE PURSUANT TO RSA 374:34-a**
7 **AND THE RATE REVIEW STANDARD SET FORTH IN PUC 1304.06?**

8 A. Yes, I have. The language in RSA 374:34-a governing the rules that the PUC shall adopt
9 in setting rates for pole attachments in New Hampshire affords the PUC discretion in adopting an
10 “appropriate formula or formulae for apportioning costs” and thereby affording the PUC the
11 ability to adopt a single unified broadband rate formula.¹ Unlike the FCC in setting its rules
12 governing pole attachment rates for investor owned utilities at the federal level, the PUC is not
13 constrained by the existing statutory framework of Section 224(e) of the Communications Act
14 (“Act”) to implement a bifurcated rate structure that establishes separate cable and
15 telecommunications rate formulas.

16 As discussed in more detail below, the adoption of two separate formulas, as the FCC
17 was directed to implement as part of the 1996 amendments to the Act when access to utility
18 poles at just and reasonable rates was extended beyond cable operators to include
19 telecommunications service providers, introduces a number of unnecessary complications into

¹ See RSA 374:34-a.III (effective July 16, 2007) (“The commission shall adopt rules under RSA 541-A to carry out the provisions of this section, including appropriate formula or formulae for apportioning costs.”).

1 the rate setting process. Even more importantly from an economic and public policy perspective,
2 is that, in light of the technological and market changes in the communications industry that have
3 ensued in the 16 years since the passage of the Telecommunications Act in 1996, a bifurcated
4 pole rate formula approach is at cross purposes to the critical public policy goals of encouraging
5 deployment and adoption of advanced broadband services and promoting robust competition in
6 the increasingly convergent communications industry.

7 In ways not fully anticipated at the time the Telecommunications Act was passed, the
8 telecommunications marketplace has become increasingly convergent over the past couple of
9 decades with telecommunications, cable television (and potentially electric utilities or their
10 affiliates as well) competing for the same customers in the voice, video, broadband data and
11 wireless marketplaces. In an increasingly convergent marketplace, markets that were
12 traditionally thought of as separate markets will no longer function as separate or independent
13 markets.

14 In light of these important structural changes in the industry, a regulatory policy that is
15 readily adaptable and competitively neutral (i.e., does not give one competitor in a given market
16 an undue competitive advantage) with respect to changes in service usage, mix, and technology
17 over time is highly desirable from the standpoint of both economic efficiency and equity.

18 In this context, the adoption of a single unified broadband formula that applies to pole
19 attachments of all kinds and applies across the spectrum of broadband providers is best suited to
20 achieve the widely accepted public policy goals of encouraging the widespread deployment of
21 broadband services and promoting robust competition in the increasingly convergent
22 communications marketplace.

1 This concept was explicitly recognized in the FCC’s National Broadband Plan the
2 agency’s Further Notice of Proposed Rulemaking issued in the wake of the National Broadband
3 Plan, and the FCC’s final decision in that rulemaking proceeding the April 7, 2011 Order.² The
4 State of New Hampshire has embraced similar goals in the form of a “Broadband Action Plan”
5 designed to encourage and to increase broadband deployment throughout all areas of the state.³
6 Moreover, as discussed more fully below, the rules promulgated by the PUC in PUC 1304.06 to
7 implement RSA 374:34-a set forth specific criteria designed to adopt and implement a formula
8 methodology that takes into express consideration the achievement of those goals.

9 Consistent with the recent findings of the FCC,⁴ and the findings of the overwhelming
10 majority of states that have exercised jurisdiction over pole attachment regulation, in the context
11 of these overarching goals to encourage and increase broadband deployment, among other
12 benefits, the existing cable rate formula would be the best overall methodology for a unified rate
13 for broadband services providers and for determining just and reasonable rates. As will be
14 explained in more detail in this testimony, the cable rate formula, which allocates costs
15 exclusively in proportion to relative use offers many advantages vis-à-vis the existing telecom

² FCC, *Connecting America: The National Broadband Plan* (2010), at 110, <http://www.broadband.gov/plan/#read-the-plan>; *Implementation of Section 224 of the Act; A National Broadband Plan for Our Future*, Order and Further Notice of Proposed Rulemaking, 25 FCC Rcd 11864 (2010) (“FCC 2010 FNPRM”); April 7, 2011 Order ¶ 181.

³ See New Hampshire Department of Resources and Economic Development (DRED) and the Telecommunications Advisory Board (TAB), *State of New Hampshire Broadband Action Plan*, dated June 30, 2008 (“NH Broadband Action Plan”), available at <http://www.nheconomy.com/uploads/Final-Report-082808.pdf>.

⁴ See April 7, 2011 Order ¶¶ 172-181. FCC 2010 FNPRM ¶ 118 (“We believe that pursuing uniformity by increasing cable operators’ pole rental rates—potentially up to the level yielded by the current telecom formula—would come at the cost of increased broadband prices and reduced incentives for deployment. Instead, by seeking to limit the distortions present in the current pole rental rates by reinterpreting the telecom rate to a lower level

1 rate formula which allocates costs using a hybrid proportional and per capita approach. These
2 advantages include, among others, the cable formula being designed in a manner that is fully
3 consistent and transparent with respect to the principles of cost causation and economically
4 efficient marginal cost pricing, the requirement to be fully compensatory to the pole owner, as
5 well as the practical advantages of being applied in a simple, expeditious, and unified manner
6 that is less administratively burdensome than the telecom rate formula.⁵

7 Not only does the cable rate formula produce a result that is more economically efficient
8 than the old telecom rate formula, and more straightforward than either the old or revised
9 telecom rate formula, it also produces one that is fair to pole owning utilities and their ratepayers.
10 In particular, rates derived using the cable rate formula (and especially including make-ready
11 charges that apply in addition to the formula rate) provide contribution over and above
12 economically efficient prices, and has been proven over time not to affect the utilities'
13 investment in pole plant.

14 As discussed fully in the following section of this testimony, rates at levels produced by
15 the cable rate formula, as recently found by the FCC, and as found by the overwhelming majority
16 of states certified to regulate pole attachments, is much more appropriate from economic and
17 public policy perspectives (given the PUC's rate review standard criteria) over the old telecom

consistent with the Act, we expect to increase the availability of, and competition for, advanced services to anchor institutions and as middle-mile inputs to wireless services and other broadband services.”).

⁵ April 7, 2011 Order ¶ 183.

1 rate formula and even the revised telecom rate formula adopted by the FCC in its April 7, 2011
2 Order.⁶

3 While the revised telecom rate formula goes a long way to address the infirmities of the
4 old telecom rate formula by effectively reducing rates derived by that formula to levels in the
5 close vicinity of cable rate, given the PUC has the latitude to adopt a unified rate formula in the
6 first instance, there is no real benefit to implementing a second rate formula that was expressly
7 designed by the FCC to produce a rate as close as possible to the first. In this context, adoption
8 of the revised telecom rate formula to be applied to telecommunications attachments offers no
9 real advantage, but does have the disadvantage of introducing unnecessary complexity and areas
10 of contention as discussed further below.

11 **APPLICATION OF THE PUC'S SIX FACTOR RATE REVIEW STANDARD**

12 **Q. PLEASE DESCRIBE THE SIX FACTOR RATE REVIEW STANDARD**
13 **SET FORTH IN PUC 1304.06 THAT THE PUC IS TO FOLLOW IN SETTING POLE**
14 **ATTACHMENT RATES FOR CABLE OPERATORS AND COMPETITIVE LOCAL**
15 **EXCHANGE CARRIERS.**

16 A. PUC 1304.06 sets forth the following criteria as the rate review standard the PUC is to
17 apply in “[i]n determining just and reasonable rates for the attachments of competitive local
18 exchange carriers and cable television service providers to poles owned by incumbent local
19 exchange carriers or electric utilities.” These six criteria are as follows:

20 (1) Relevant federal, state or local laws, rules and decisions;

⁶ As discussed *infra* in this testimony, the FCC’s revised telecom formula, implemented appropriately, would be an acceptable formula should the PUC choose to implement a bifurcated formula approach.

- 1 (2) The impact on competitive alternatives;
- 2 (3) The potential impact on the pole owner and its customers;
- 3 (4) The potential impact on the deployment of broadband services;
- 4 (5) The formulae adopted by the FCC in 47 C.F.R. § 1.1409(c) through (f) in effect on July 16,
- 5 2007; and
- 6 (6) Any other interests of the subscribers and users of the services offered via such attachments
- 7 or consumers of any pole owner providing such attachments, as may be raised.

8 **Q. PLEASE EXPLAIN THE BASIS OF YOUR OPINION THAT THE PUC'S**
9 **SIX FACTOR REVIEW STANDARD IS BEST SATISFIED BY THE ADOPTION OF A**
10 **UNIFIED BROADBAND RATE FORMULA BASED ON THE FCC CABLE RATE.**

11 A. The basis of my opinion is described below for each of the six factors that comprise the
12 PUC's rate review standard. While my analysis is structured to address each factor individually,
13 the factors interrelate in very substantive ways. Accordingly, my ultimate determination that a
14 unified broadband rate formula based on the cable rate best satisfies the PUC's rate review
15 standard is based on the cable rate being best suited to achieve the six identified criteria on *both*
16 an individual and collective basis.

17 **Factor 1: Relevant federal, state or local laws, rules and decisions.**

18 The FCC cable formula is a long-standing methodology that is well accepted and easy to
19 understand and apply. Testament to this point is the fact that the vast majority of states that
20 regulate pole attachments use the cable rate formula or some close variation of it for all regulated
21 attachments. Included in the many states that use the cable rate formula for all third party
22 attachments is the neighboring state of Massachusetts with which New Hampshire directly

1 competes for economic development opportunities and the ability to attract a highly educated
2 and skilled labor force.

3 Notwithstanding numerous legal challenges by monopoly pole owners over the years, the
4 FCC and the courts, including the U.S. Supreme Court, have repeatedly found the cable rate to
5 be more than compensatory to the utility pole owner and void of cross subsidy, especially when
6 make-ready charges designed to recover any non-recurring out-of-pocket costs the utility may
7 incur in order to accommodate any particular third party attachment to its poles and that apply
8 over and above the recurring formula rental rate are taken into account.⁷

9 It is the case at the federal level that, pursuant to Section 224(e) of the Communications
10 Act as amended in 1996, a separate telecom rate formula has been applied to attachments
11 classified as “telecommunications.” However, since the passage of the 1996 amendments, the
12 issue of applying a bifurcated formula approach that requires the separate classification and rate
13 treatment of “cable” versus “telecommunications” attachments has become much more complex
14 and impactful. There are several related reasons why, as a matter of economic and public policy,
15 the PUC should not give that aspect of the federal law (i.e., the establishment of a bifurcated rate
16 formula approach) much consideration in the context of this particular rate review standard.

17 First, since the passage of Section 224(e), there is increasing recognition at both the
18 federal and state levels of the substantial public interest benefit to policies that promote increased

⁷ See, e.g., *Alabama Power Co. v. FCC*, 311 F.3d 1357, 1370-71 (11th Cir. 2002) (“[A]ny implementation of the [Commission’s cable pole attachment rate] (which provides for much more than marginal cost) necessarily provides just compensation.”); *FCC v. Florida Power Corp.*, 480 U.S. 245, 253-54 (1987) finding that it could not “seriously be argued, that a rate providing for the recovery of fully allocated cost, including the actual cost of capital, is confiscatory”). See also FCC National Broadband Plan at 110 (“[The cable rate] has been in place for 31 years and is ‘just and reasonable’ and fully compensatory to utilities.”).

1 broadband deployment and widespread availability of advanced broadband services. Back in
2 1996, broadband applications were still in their relative infancy. Now, they are perceived by
3 many as a basic necessity. Back in 1996, there was the widely expressed expectation of a
4 relatively larger number of facilities based carriers than has actually occurred. Since the telecom
5 formula divides the costs of unusable space on the pole on a per capita basis, the formulaic
6 impact of the relatively fewer anticipated number of entities needing to attach to utility poles has
7 been a much greater divergence between the long-standing cable rate and the telecom formula
8 that Congress directed the FCC to implement.

9 Second, and in direct recognition of and in response to the preceding factors, the FCC, in
10 its seminal April 7, 2011 Order, formally abandoned the old telecom formula. In its decision, the
11 FCC explicitly acknowledges that the old telecom formula has been shown over time to diverge
12 too substantively from accepted principles of cost causation, thereby resulting in rates well in
13 excess of efficient levels and that serve to place a damper on broadband deployment, competition
14 and the widespread availability and adoption of advanced broadband services.⁸ The reasons why
15 this is the case are discussed more fully under the discussion of factor #5 below. While it is my
16 understanding that the FCC, subject to the language of Section 224(e), was constrained to keep a
17 bifurcated rate formula approach, the revised telecom rate formula adopted by the FCC in its
18 April 7, 2011 decision, for all intents and purposes, when properly applied, produces a rate that is
19 an exact or very close equivalent to the cable rate.

⁸ April 7, 2011 Order ¶¶ 147-48, 172, 174-76.

1 Third, the federal law that permits states to certify to regulate pole attachments in their
2 state, does not require certifying states to apply the bifurcated formula approach. Section 224(e)
3 is a requirement imposed only on the FCC to apply in its federal level regulation of investor
4 owned utilities operating in states where the FCC has maintained jurisdiction. Again, as noted
5 above, the vast majority of states that have exercised jurisdiction over poles, and that are not
6 constrained as is the FCC by language in Section 224(e), have not opted to implement a separate
7 telecom rate formula.

8 Fourth, since the passage of Section 224(e), the communications industry has become
9 increasingly convergent in nature, such that markets previously perceived as separate markets are
10 converging into one more broadly defined communications market consisting of voice, video,
11 data, and wireless service applications. In this regard, however, it is significant that the FCC,
12 consistent with its prior rulings upheld by the Supreme Court, as well as pole regulating states,
13 have consistently applied the cable formula to commingled cable and broadband services
14 including Internet and interconnected VoIP. Similarly, there is no language in the PUC's pole
15 attachment rules requiring cable operators to pay a higher pole attachment rate for commingled
16 cable television and Internet services, including interconnected VoIP, than they would for
17 traditional cable.

18 While the PUC's 2011 ruling classified VoIP as a "telecommunications" service, it is my
19 understanding that the PUC's ruling was for the limited purposes of ensuring that certain
20 consumer protection requirements imposed on other providers of voice services were also
21 adhered to by cable operators offering cable voice services (which the PUC order recognized was
22 already the case). It is my further understanding that the PUC order did not address the issue of

1 pole attachment rates applicable to VoIP services.⁹ Indeed, in the PUC’s own words, its ruling
2 was not intended to have anything more than a “minimal if any, competitive impact on Comcast
3 and Time Warner services in New Hampshire,” which indeed would have been the case had the
4 result of the order been to subject cable operators to the higher telecom formula rate.¹⁰

5 In any event, it is my further understanding that recent legislation has specifically
6 confirmed that VoIP is not subject to regulation as telecommunications service in New
7 Hampshire.¹¹

8 Finally, as explained in the discussion of factor #4 below, the PUC’s rules, by
9 specifically identifying the potential impact on the deployment of broadband services as one of
10 the rate review criteria, would, in my opinion, make it difficult to justify a rate formula to be
11 applied to broadband service providers other than the cable formula or a formula that produced a
12 rate very close to the cable rate. That said, in my opinion as an economist with experience in
13 setting just and reasonable rates for essential facilities, the just and reasonable standard in and of
14 itself, as set forth in New Hampshire’s pole attachment statute and as widely adopted by other
15 certified states, independent of the PUC’s final rules promulgated to implement that statute,
16 provides a solid basis upon which to adopt the cable rate formula.

⁹ See *New Hampshire Tel. Ass’n*, NH PUC Dkt. No. DT 09-044, Order No. 25,262 (Aug. 11, 2011).

¹⁰ According to the PUC’s ruling, cable operators Comcast and Time Warner were already substantially complying with the customer service requirements and regulations at issue in the ruling. On this basis, the PUC concluded that its “finding that cable voice services are subject to regulation should have minimal, if any, competitive impact on Comcast and Time Warner services in New Hampshire.” See *id.* at 59. I understand that adoption of PSNH’s proposed use of the FCC’s old FCC formula to VoIP attachments would likely double pole attachment rent for Comcast and Time Warner Cable in New Hampshire. See Direct Testimony of Glenn Fiore and Christopher Hodgdon on behalf of Comcast at 14; Direct Testimony of Julie Laine on behalf of Time Warner Cable at 18.

¹¹ See SB48, N.H. Laws of 2012, Ch. 177.

1 **Factor 2: The impact on competitive alternatives.**

2 From an economic and public policy perspective, there is widespread acceptance that
3 sound regulatory policy should be implemented in a manner that does not provide a competitive
4 advantage to one competitor or competitive alternative vis-à-vis another. This concept is widely
5 known as the concept of competitive neutrality or level playing field. All other things being
6 equal, competitive parity among providers of broadband services, including new VoIP services,
7 is best achieved by a regulatory policy that applies a uniform price per foot of equivalent utility
8 pole attachment, set at an economically efficient level so as not to artificially depress demand in
9 the final market for broadband services. Conversely, a bifurcated rate formula approach can
10 serve to penalize arbitrarily a competitor for its choice as to technology, business plan, or mix of
11 service offerings, especially, when that approach imposes an undue cost burden far in excess of
12 cost causative costs on one class of competitors vis-à-vis another, as is the case with the old
13 telecom formula. This, in turn, can lead to the stifling of innovation and competition for
14 broadband services, an outcome that is contrary to public policy goals and the public interest.

15 The FCC cable rate formula methodology is not inherently biased in favor of any one
16 industry or competitor over another, and can be readily applied in uniform fashion across
17 broadband providers. The continued adherence to the FCC cable methodology, as clearly
18 articulated in the FCC's April 7, 2011 Order, and the FCC's National Broadband Plan, the
19 impetus for the pole rulemaking, is first and foremost driven by the public policy objectives of
20 promoting competition and broadband deployment. This is true in all regions of the country, and
21 particularly the case in rural areas, where there are even less favorable underlying economic
22 conditions for broadband deployment, and even more to gain from the economic and social

1 benefits of affordable access to advanced broadband services in today's information age
2 economy. The economic reality is that, in order to achieve these widely embraced public policy
3 objectives, pole attachments, a vital input to broadband deployment, need to be priced at an
4 efficient, cost-based level (i.e., closer to marginal cost) relative to the excessive monopoly rate
5 levels sought by the pole owners, and in a manner that does not discriminate against competitive
6 alternatives depending on the provider's particular choice as to technology, business plan, or mix
7 of service offerings.

8 Fundamental economic principles hold that the closer the prices that third party attachers
9 are charged for their shared use of the natural monopoly pole facilities are to the owner's
10 marginal costs of attachment, the closer the outcome will be to achieving the performance
11 attributes ascribed to a competitive marketplace, i.e., the more efficient the outcome in terms of
12 maximizing the productive use of societal resources and the resultant benefits to consumers,
13 including lower prices and greater service offerings and innovation. Any rate level materially
14 higher than the existing cable rate, which, as noted above, is already compensatory and in excess
15 of the marginal cost, will raise the regulated rate for this critical input needed to provide
16 broadband services to many users even further above the economic cost, thereby introducing
17 even greater market distortions vis-à-vis the competitive benchmark of marginal cost pricing
18 This will have a decidedly negative or harmful impact on competitive alternatives and more
19 generally, on promoting competition and deployment of advanced broadband services including
20 interconnected VoIP.

1 **Factor 3: The potential impact on the pole owner and its customers.**

2 Pursuant to widely recognized economic principles of cost causation (and under the legal
3 standard of just compensation), avoidance of any cross-subsidy between the pole owner and the
4 third party attacher requires that attachers be held responsible for the additional (or incremental)
5 costs they cause the pole owning utility to incur, such that the utility is, at a minimum, no worse
6 off for having hosted the third party attachment. The cable rate formula is a fully allocated rate
7 formula which, by definition, provides for recovery of costs that would occur even in the absence
8 of the third party attacher. Accordingly, and for use of otherwise vacant space on the pole, the
9 cable rate provides for recovery of much more than the incremental costs required to avoid cross-
10 subsidy.

11 This is especially the case since, *in addition to* the cable formula rate, the utility is also
12 able to pass on to the attachers make-ready charges to recover any one-time incremental costs
13 incurred to accommodate third party pole attachments, including the full costs (as actually
14 incurred and paid by the utility) associated with rearrangements and pole modifications or
15 replacements as necessary to accommodate the attachments. On top of these charges, the utility
16 may also typically charge an attacher other direct reimbursement fees, including fees for such
17 administrative items as application processing, field surveys, inspections and audits.

18 Because of this additional compensation (which can be quite substantial) over and above
19 the regulated rate, plus the fact that any upgrades to the pole made and paid for by the attacher
20 through the make-ready process become property of the utility, the pole owner (and its
21 ratepayers) stands to be made *much better off* financially after the accommodation of an
22 additional attachment. This can occur in any of the following ways:

- 1 • The utility receives in excess of the incremental costs it incurs through the combination of
2 make-ready and other direct fees plus the rental rate, providing a source of contribution to the
3 cost of providing core electric distribution service that it otherwise would not have, but for
4 use of otherwise available pole capacity;
- 5 • When poles are modified or replaced (at the attaching entity's expense), the utility typically
6 ends up with greater available pole capacity as compared with pre-attachment, because the
7 modified or replacement poles are stronger, taller and/or in better condition;
- 8 • The utility has the benefit of a stronger and often a newer pole for its own operations at the
9 attacher's expense, and can realize savings (or deferred capital expenditures) to its own
10 build-out program; and
- 11 • With more potential space available on the pole to accommodate additional uses and/or users,
12 the utility can realize additional sources of revenue.

13 Utility ratepayers also stand to benefit directly from the shared use of utility poles. The
14 contribution received by the utility for use of otherwise available capacity, or to its capital
15 program, through the process of make-ready (including pole replacement) at the attacher's
16 expense, should translate into reduced utility revenue requirement needed to be recovered
17 through regulated rates. In addition, as discussed further below, as consumers of
18 communications services, utility ratepayers are also the beneficiaries of lower rates and
19 expanded and/or advanced service offerings in the convergent communications marketplace and
20 the growing number of markets dependent on advanced broadband services. The sharing of the
21 utility's pole network – an asset that has historically been paid for and maintained primarily
22 using ratepayer dollars – allows for more effective utilization of the asset, and hence a means of
23 effectively enhancing the return on ratepayer dollars.

1 The negative economic impact of high pole attachment rates in the broadband services
2 market (described in more detail in the discussion of the next rate review factor) is magnified by
3 the fact there would be little to any offsetting societal value gained in the electric distribution
4 market, where very different economic conditions exist. These conditions include:

- 5 • The true marginal costs of pole attachments (i.e., the costs that truly, but for the existence of
6 third party attachers, would not otherwise exist for the utility in providing its core electric
7 distribution service) are extremely small when one looks at costs that are not already
8 recovered in the set of make-ready or direct reimbursable fees the utilities charge attachers.¹²
9 This means, even if there were no third party attachers, the electric distribution company's
10 actual pole attachment related costs would not go down much.¹³
- 11 • The impact of pole attachment revenues on a per electric subscriber or per kilowatt hour
12 basis is very small (in contrast to the relatively large impact per broadband subscriber).
- 13 • The demand for electric distribution service is not price sensitive, it is what economists refer
14 to as inelastic demand, meaning even if the impact of pole attachment revenues per electric
15 subscriber was significant (which it is not) and even if it could be shown that electric rates
16 charged by the utilities would actually go down in response to changes in pole attachment
17 rates (which is unlikely), it would not cause that subscriber to increase his or her demand for
18 electricity.

¹² Along with the FCC and others, I have previously measured these recurring marginal costs to be in the range of \$1.00 to \$1.50 annually per attachment for electric utilities.

¹³ Actually, for the reasons delineated above, the electric company and its customers would be much worse off without third party attachers. Under the FCC methodology, as demonstrated by economics, and as found by the courts, third party attachers pay much more than the marginal costs, thereby providing a significant contribution to the electric company's overhead costs, especially taking make-ready charges into account. Moreover, through make-ready charges, third party attachers pay the total out-of-pocket costs to install taller and stronger poles when required to accommodate their attachments. These poles remain fully owned by the utility, which benefits additionally by the revenues it can earn by renting out space to other attachers or by savings to its own capital upgrade programs.

- 1 • There is no evidence from utilities of which I am aware that demonstrates the process by
2 which electric customers would receive an actual benefit if pole rentals from cable
3 companies increase.
- 4 • There is no evidence to suggest any dampening of investment in distribution plant by electric
5 utilities have occurred in the more than three decades in which the cable rate has been the
6 prevailing rate for third-party pole attachment rates. To the contrary, increases in Account
7 364 gross investment in pole plant has steadily increased over time.
- 8 • The electric utility subscribers are also potential subscribers of broadband and associated
9 advanced services, so they stand to benefit as much or more from a lower pole attachment
10 rate such as the cable rate that encourages a lower price for such broadband services than
11 from a higher pole attachment rate that will stifle broadband competition, deployment and
12 adoption.

13 For all the aforementioned reasons, the pole owners and their customers have much to gain,
14 and little if any to lose, from a pole attachment rate set equal to the cable rate. This finding is
15 corroborated by the fact that the National Association of State Utility Consumer Advocates
16 (“NASUCA”), a public interest group representing the interest of all consumers, including cable,
17 telephone and utility ratepayers, has consistently supported the cable rate, including its most
18 recent recommendation to the FCC to adopt a unified cable rate as the best way to balance
19 interests of the various consumer constituencies.¹⁴ Similarly, the vast majority of utility
20 commissions in states certified to regulate pole attachment rates, expressly charged, pursuant to

¹⁴ Reply Comments of The National Association of State Utility Consumer Advocates in FCC Docket 07-245, filed Apr. 22, 2008, at 1-2, 5 (“This rate was upheld against challenges that it was confiscatory. Thus this is the rate that should be used for all pole attachments, regardless of the exact service provided over the attachment, and regardless of the identity of the attacher.... Equally importantly, the Commission must not increase the rate paid by broadband service providers because this would be contrary to ‘the nation’s commitment to achieving universal broadband deployment and adoption.’”).

1 Section 224(c)(2)¹⁵ to take into the account the impact on utility customers, have applied a
2 uniform pole attachment rate based on the cable rate, or close variation of it.

3 **Factor 4: The potential impact on the deployment of broadband services.**

4 As widely acknowledged, pole attachments are a vital input needed for the delivery of
5 new, advanced broadband services and applications. It is fundamental economic theory that a
6 more efficient rate (such as the FCC cable rate) that more closely tracks a competitive rate level
7 can provide important benefits to consumers – including both utility ratepayers and cable
8 subscribers alike. Setting rates for pole attachments at economically efficient levels creates a
9 market environment that is most conducive to the provision of a greater array of innovative and
10 advanced broadband services including associated advanced services like VoIP, and at lower
11 rates, than would occur if the pole attachment rate was set at higher monopoly rate levels.
12 Charging rates higher than the cable rate for this vital pole input serves no valid economic or
13 public policy purpose.

14 To the contrary, such excessive rates work at cross purposes to important public policy
15 goals, as expressed by policymakers nationally, and in New Hampshire, to promote effective
16 competition and widespread availability of broadband services. Increasingly, the widespread
17 availability of broadband services, at affordable prices, is being recognized as essential to the
18 economic and overall well-being of a community. The need for, and resultant benefits of,
19 broadband connectivity and its applications at affordable prices, has made its way into almost

¹⁵ 47 U.S.C. § 224(c)(2) (“Each State which regulates the rates, terms, and conditions for pole attachments shall certify to the Commission that ... it does consider the interests of the subscribers of the services offered via such attachments, as well as the interests of the consumers of the utility services.”).

1 every aspect of modern life including health, education, public safety, recreation and culture,
2 commerce, and government.

3 This is particularly the case in less populated areas such as exist in New Hampshire
4 where there are even less favorable underlying economic conditions for broadband services
5 deployment (e.g., lower population densities resulting in higher construction costs per capita) –
6 areas with even more to gain from the economic and social benefits of affordable access to
7 broadband services in today’s information age economy. These are all points emphasized in the
8 FCC’s National Broadband Report, which recommends rates for pole attachments be set as low
9 and as close to uniform (in the vicinity of the current cable rate) as possible to support the goal of
10 broadband services deployment.¹⁶ Another added benefit of VoIP service in particular is that
11 provides for the ability to more effectively compete with the incumbent local exchange carrier,
12 which in itself produces benefits to consumers in the form of lower prices for both telephony and
13 broadband service offerings and hence increased deployment and adoption of the latter,

14 These are also points emphasized in the State of New Hampshire’s Broadband Action
15 Plan, which independently acknowledges and validates the findings of the FCC’s National
16 Broadband Plan as directly applicable in the State of New Hampshire as the following excerpts
17 make clear:

¹⁶ See FCC National Broadband Report at 110, which recommends rates for pole attachments be set as low and as close to uniform (in the vicinity of the current cable rate) as possible to support the goal of broadband deployment, particularly in rural areas where the “impact of these rates can be particularly acute.”

- 1 • “Improv[ing] utility pole access” is identified as a *critical priority* of the state planning
2 process requiring regulatory involvement.¹⁷
- 3 • “Based upon research, vendor feedback, and the regional forums, it appears that utility pole
4 access may be an important issue for broadband deployment in the State of New
5 Hampshire.”¹⁸
- 6 • “Attachment fees for pole access should be *consistent and competitive* so that they do not
7 hinder the further deployment of broadband services.”¹⁹ (Emphasis added.)
- 8 • One of the “responsibilities of the proposed broadband entity” is to “work with private
9 vendors to ensure that public sector initiatives do not impede private investment that would
10 expand broadband services in unserved and underserved regions of New Hampshire.”²⁰

11 As to this last bullet point, allowing the monopoly pole owners to charge cable operators
12 and other broadband services providers pole rents in excess of an economically efficient level,
13 perhaps more directly than any other regulatory policy, will serve to “impede private investment
14 that would expand broadband services in unserved and underserved regions of New Hampshire,”
15 *expressly contrary to the expressed goals of the NH Broadband Action Plan.*

16 Having to absorb higher pole rents directly (and negatively) impacts the cable industry’s
17 ability to meet financial and investment obligations including those related to the build out of
18 infrastructure needed to support the widespread deployment of advanced broadband services and
19 technologies, including interconnected VoIP services. Cable companies are not generally in a

¹⁷ See NH Broadband Action Plan at iv, 39.

¹⁸ See *id.* at 39.

¹⁹ See *id.*

²⁰ See *id.* at 34-35.

1 position to flow through to customers higher pole costs given the increasing price-constraining
2 competition and market conditions they face – conditions which are quite different from those
3 facing the utility in regard to its provision of electric distribution services.

4 However, to the extent cable companies are able to do so in selected markets, they will
5 raise the cost of broadband and interconnected VoIP services in those markets, thereby reducing
6 the ability of consumers (who include electric utility ratepayers) to afford and enjoy the widely-
7 acknowledged economic and social benefits of affordable access to broadband services in
8 today’s information age economy. As a general proposition, and particularly in less populated
9 areas, many poles can be required to serve an individual subscriber, such that the price charged
10 per pole attachment can have a very significant impact on the cost to serve any one broadband
11 subscriber. Moreover, consumer demand for broadband is relatively price sensitive, in economic
12 parlance, “price elastic” demand, such that increases in price are going to have a significant
13 dampening effect on service adoption rates in the state.

14 New Hampshire’s Broadband Action Plan makes clear the desirability to the state of
15 creating a climate for broadband services deployment that ranks high if not the highest among
16 neighboring states.²¹ This makes good economic sense since New Hampshire directly competes
17 with other states for economic development opportunities for attracting and retaining a highly
18 educated and skilled labor force. New Hampshire’s neighbor to the south, Massachusetts, in
19 particular, has adopted a number of pro-broadband policies, including a unified pole attachment

²¹ See NH Broadband Action Plan at 47 (“New Hampshire’s goal should be to ensure that at a minimum it maintains its current ranking [#12 on the New Economy Index] for digital economy and broadband, if not improve its ranking. These ... rankings should not be taken lightly since businesses and individuals often refer to them when considering relocation. These rankings, therefore, play an important role in marketing the State.”).

1 rate based on the FCC cable rate.²² If New Hampshire were to adopt a pole rate formula for
2 broadband services such as interconnected VoIP, that was higher than the formula applicable to
3 cable attachments, the State could be placed at a distinct competitive disadvantage, expressly
4 counter to the goals expressed in the State's Broadband Action Plan.

5 **Factor 5: The formulae adopted by the FCC in 47 C.F.R. § 1.1409(c) through (f) in effect**
6 **on July 16, 2007.**

7 This factor directs the PUC to take into consideration the FCC formulas in effect on
8 July 16, 2007. This factor is best understood in the context that the FCC rules were in a state of
9 flux during the period that New Hampshire's pole attachment regulation policies were being
10 deliberated. Indeed, I am familiar with other state legislative initiatives during that same time
11 period that also made reference to the old FCC rules, notwithstanding, but perhaps precisely
12 because of, the uncertainty that existed with respect to the new rules that might be the outcome
13 of the FCC's pole rulemaking proceedings during that time frame. The inclusion of a factor that
14 allowed the state regulator to consider the old FCC rules gave the regulator the option to keep
15 with the old rules in the event the new rules might run counter to state goals or policies.

16 However, at this point in time, the outcome of the FCC's pole rulemaking proceeding is
17 known. The FCC telecom rate formula in effect on July 16, 2007 was formally rejected by the
18 FCC in its April 7, 2011 decision in favor of a revised telecom rate formula that is effectively
19 equivalent to the cable rate formula, which the FCC left intact. Given that the vast majority of

²² *Cablevision of Boston v. Boston Edison Co.*, Docket D.P.U./D.T.E. 97-82 (1998) (cable rate assures payment by cable operators of "the fully allocated costs for the pole space occupied by them").

1 certified states never relied on the old telecom formula, for all intents and purposes, the old
2 telecom rate formula is largely obsolete.

3 Perhaps even more significantly, the old telecom rate formula, and more generally, the
4 use of a bifurcated pole formula methodology that effectively penalized attachments of
5 broadband providers classified as telecommunications, was explicitly found by the FCC, as well
6 as by a number of other state regulators, to hinder the deployment of broadband services and the
7 development of a robust, competitive broadband marketplace.²³ There are many reasons why the
8 old telecom formula was found to produce excessive rates and, as a result, hinder broadband
9 services deployment. These include:

- 10 • *Use of a per capita allocator inconsistent with cost causation principles.* In contrast to the
11 cable rate formula, the old telecom formula employs a per-capita cost allocator to allocate the
12 costs associated with the unusable space on the pole.²⁴ A per capita type allocation
13 methodology does not make sense from an economic cost causation perspective, given the

²³ See, e.g., April 7, 2011 Order ¶¶ 176-177; *Proceeding on Motion of the Commission as to New York State Electric & Gas Corporation's Proposed Tariff Filing to Revise the Annual Rental Charges for Cable Television Pole Attachments and to Establish a Pole Attachment Rental Rate for Competitive Local Exchange Companies*, Order Directing Utilities to Cancel Tariffs, Case 01-E-0206, 2002 N.Y. PUC LEXIS 14, at * 3 (Jan. 15, 2002) (“New York Pole Rent Proceeding”), noting, in particular, the fact that “competition and the number of attachers has not developed as previously contemplated” as the basis for its decision not to increase pole attachment rates above the level of the existing cable rate.; *California Competition Decision*, 1998 Cal. PUC LEXIS 879 (“Moreover, such an approach promotes the incentive for facilities-based local exchange competition through the expansion of existing cable services. . . . We conclude that the adoption of attachment rates based on the [cable rate] formula provides reasonable compensation to the utility owner, and there is no basis to find that the utility would be lawfully deprived of any property rights.”) (internal citations omitted).

²⁴ Under the per capita approach, costs associated with the unusable space on the pole are divided by the number of attaching entities. The cable rate formula *also* allocates the costs associated with the unusable space on the pole, it just does so using the 7.41% proportionate share allocator that it, and the telecom rate formula, uses to allocate the usable space.

- 1 important structural attribute of poles of being able to readily accommodate multiple
2 attachers through the process of make-ready.²⁵
- 3 • *Adds complexity and arbitrariness and unnecessary issues of contention that serve no cost-*
4 *causative purpose.* Because the number of attaching entities varies pole to pole, and service
5 area to service area, the need to track the number of attaching entities adds a level of
6 complexity and arbitrariness to the telecom rate formula. Rate formulas that utilize a per-
7 capita allocator, by relying on the number of attaching entities, introduce an artificial
8 construct into the pricing formula – one that has no direct connection to the consumption of
9 space on the pole or to any actual increase in cost burden placed on the utility or its
10 ratepayers.
 - 11 • *Produces rates well in excess of economically efficient marginal costs.* When Congress
12 adopted the language prescribing the old telecom rate formula in the mid-1990s, the
13 technology for facilities-based competition for telecom involved a new wire attached to the
14 pole by a new CLEC entity, and there was the expectation that there would be a greater
15 number of attaching entities in any given service area than in fact materialized.²⁶ Because
16 the telecom formula divides costs on a per capita basis, the smaller the number of attaching
17 entities, the larger the rate produced by the formula.²⁷
 - 18 • *Discourages broadband services deployment, especially in underserved areas.* For the
19 reasons discussed under the preceding bullet points, the rates produced by the old telecom
20 formula were typically well in excess of the more economically efficient cable rate, and

²⁵ Because of this attribute, the addition of another entity onto the pole does not result in the displacement or exclusion of another user or use by the utility. So, from an economic perspective, there is no cost-causative rationale for allocating a common space on the pole on the basis of the number of attachers.

²⁶ See, *supra*, note 24 (New York Pole Rent Proceeding).

²⁷ Had the widely-anticipated facilities-based new entry occurred, the differential between the cable and telecom formula rates could very well have converged. In fact, the FCC rules anticipated the possibility of the telecom attachment rate being lower than the cable rate as the number of new facilities-based competitors increased. 47 C.F.R. §1.1409(f) (“Rate reductions are to be implemented immediately.”)

1 introduced unnecessary complexity and uncertainty into the equation. These factors all serve
2 to hinder broadband services deployment as discussed more fully under the discussion of
3 factor #4 above. Furthermore, dividing the costs of the unusable space among attachers has
4 the perverse effect of producing a higher pole attachment rate in less populated areas where
5 the number of attaching entities tends to be lower, and precisely where public policy would
6 want to encourage, not discourage, broadband services deployment and subscriber
7 penetration rates.

8 While pursuant to this factor the PUC is to consider the FCC's old rules, for the various
9 reasons set forth above, there is no valid economic and public policy reason to adopt or in any
10 way rely on the now abandoned telecom formula for any time period following the PUC's
11 certification to regulate pole attachments. The shortcomings identified above are now widely-
12 acknowledged vis-à-vis the long standing, and repeatedly upheld cable formula.

13 **Factor 6: Any other interests of the subscribers and users of the services offered via such**
14 **attachments or consumers of any pole owner providing such attachments, as may be raised.**

15 Where government regulation of industry occurs, as in the case of public utilities, the
16 overarching decision-making criteria to be applied by the regulator is a public interest standard.
17 Applied to the instant proceeding, the public interest standard dictates that the appropriate
18 methodology for determining just and reasonable rates take into consideration not only the
19 interests of the pole owning utility or the third party seeking access, and the interests of the
20 consumers of both the utility and the third party attacher in terms of the respective stakeholders'
21 private interests, but also the greater public good. Economists refer to this concept as
22 maximizing social welfare, and such analysis would include, but not be limited to, consideration
23 of the public benefits of the policy in addition to the respective private costs and benefits of the
24 parties directly involved.

1 Going beyond the win-win situation (as discussed under factors #3 and #4 above) to the
2 utility and its ratepayers, and the third party attacher and its customers – which, in fact, include
3 utility ratepayers, there are significant benefits that accrue to society at large to be considered.
4 From a “social welfare” perspective, there is economic value to society associated with the
5 efficient use of resources, i.e., the use of resources resulting in the lowest overall cost to society
6 and the best possible utilization of those resources vis-à-vis alternative uses.

7 Because utility distribution networks (including the pole component) are “natural
8 monopolies,”²⁸ the shared use of a utility’s existing distribution network results in a lower overall
9 cost to the economy as a whole in terms of the consumption of societal resources. Resources that
10 would otherwise be used (unnecessarily and more expensively) to duplicate existing pole
11 networks are instead freed up and can be put to more productive uses – in particular, ones that
12 can provide concrete benefits to consumers, including the utility’s own electric ratepayers – such
13 as the provision of new and improved services, at lower prices, to consumers in the downstream
14 product markets in which access to poles are a key input.

15 In the case of utility pole attachments, these benefits are particularly significant given the
16 growing importance of the widespread availability of advanced broadband services to the
17 economic, health, education, safety and well-being of the public. Again, the public welfare
18 includes the utility’s own electricity ratepayers, the customers of the attaching entity, as well as
19 the business, educational, medical, cultural, and governmental entities upon which they depend.

²⁸ Natural monopolies mean that “economies of scale are so persistent that a single firm can serve the market at a lower unit cost than two or more firms.” F.M. Scherer, *Industrial Market Structure and Economic Performance* 482 (Rand McNally 1980).

1 The economically appropriate standard of reasonableness, where there exists no
2 effectively competitive or well-functioning marketplace, is based on costs incurred by the pole
3 owner in relation to the cable companies' and CLECs' use of the pole – and *not* the benefits to
4 the attacher, such as the cost savings realized by not having to place their own duplicate facilities
5 (not that they could realistically or practically do so given existing legal, environmental, zoning,
6 and/or aesthetic constraints). Such a cost standard is consistent with the economic concept of a
7 subsidy-free rate, which holds that, as long as rates cover the incremental costs of an additional
8 user, they are economically efficient and avoid cross-subsidy. As discussed above, the cable rate
9 formula has been consistently found to provide cost recovery in excess of incremental or
10 marginal costs, especially when make-ready charges are taken into account.

11 Second, even if one goes beyond the economically appropriate standard of fairness, to
12 apply a broader, and inherently more subjective view as to what constitutes a reasonable rate,
13 i.e., to add the question of what is “fair” into the mix, the application of well established social
14 welfare economic criteria would support the notion that a pole rental rate for third party attachers
15 that is based more closely on directly attributable or incremental costs is “fair.” This applies not
16 only for the private entities involved (i.e., the pole owner and its electric subscribers and the
17 attacher and its customers), but also to the greater public constituency, including the residents,
18 businesses, institutions, and visitors of New Hampshire who benefit from broadband services.

19 In the context of a social welfare economic framework, and as explicitly recognized in
20 factor #4 of the rate review standard, the well acknowledged benefits to society of the broadband
21 services provided by the communications companies, including interconnected VoIP, are
22 essential components of any calculus as to what constitutes a just and reasonable rate. Analysis

1 by the FCC and others provides strong support for the notion that the profound, long-term
2 beneficial impacts of broadband services deployment promoted by keeping rates for access to
3 poles, conduit and rights-of-way as low as possible far outweigh any short term gain to the pole
4 owning utility from the imposition of pole rental rates at levels far in excess of the incremental or
5 actual costs incurred in direct relation to third party attachment to its poles, such as rates
6 produced by the old telecom formula.²⁹

7 **FCC RATE FORMULA METHODOLOGY**

8 **Q. PLEASE DESCRIBE THE FCC FORMULA METHODOLOGY**

9 **APPROACH TO SETTING POLE RATES IN GENERAL AS IT APPLIES TO BOTH**
10 **CABLE AND TELECOMMUNICATIONS ATTACHMENTS.**

11 A. The FCC pole rate methodology, applicable to *both* cable and telecom rate attachments,
12 calculates a maximum annual pole attachment rent by taking the sum of the actual capital costs
13 and operating expenses of the utility attributable to the *entire* pole, expressed on an annual basis,
14 and apportioning those costs to the attacher based on an allocation of space on the pole.

15 The FCC formula is an economically appropriate approach in that, pursuant to Section
16 224 of the Communications Act upon which it is based, it follows cost allocation principles well-
17 established in the economics literature. Under the FCC methodology, the recovery of the cost of
18 the pole attachment is based upon the fundamental economic principle of cost causation (i.e.,
19 cost-causer pays). Such costs reflect costs that would not be borne by the utility *but for* the
20 attacher, including a normal (reasonable) return to capital. Costs designed in this manner prevent

²⁹ See, e.g., FCC National Broadcast Plan at 110; April 7, 2011 Order ¶¶ 172-181.

1 any potential situation of cross-subsidy between the utility pole owner and the third-party
2 attacher. The FCC formula methodology has been well vetted over the past several decades at
3 both the federal and state levels and repeatedly found by regulatory agencies and by the courts,
4 including the U.S. Supreme Court, to produce rates that are just and reasonable and fully
5 compensatory to the utility.³⁰

6 **Major Components of the FCC Pole Rate Formula**

7 **Q. PLEASE DESCRIBE THE MAJOR COMPONENTS OF THE FCC RATE**
8 **FORMULA METHODOLOGY.**

9 A. Operationally, the FCC pole rate formula methodology consists of the following three
10 major components: (1) the net investment per bare pole, (2) a carrying charge factor (used to
11 convert the net cost per bare pole figure into an annual rental amount) and (3) a space allocation
12 factor (i.e., the percent of pole capacity attributable to the attacher). Expressed as an equation,
13 the FCC formula methodology is as follows:

<p>14 <u>FCC Pole Rate Formula (for both cable and telecom) =</u> 15 <u>Net Bare Pole Cost x Carrying Charge Factor x Space Allocation Factor</u></p>

16

³⁰ See, e.g., *2001 Reconsideration Order*, 16 FCC Rcd 12103 ¶¶15-25; *FCC v. Florida Power Corp.*, 480 U.S. at 253-54 (1987) (finding that it could not be “seriously argued, that a rate providing for the recovery of fully allocated cost, including the cost of capital, is confiscatory.”). *Alabama Power Co. v. FCC*, 311 F.3d at 1363, 1370; *Detroit Edison Co. v. Michigan Public Serv. Comm’n*, Nos. 203421, 203480, slip op., at 3-4 (Mich. Ct. App. Nov. 24, 1998) *affirming Consumers Power Co., Detroit Edison Co., Setting Just and Reasonable Rates for Attachments to Utility Poles, Ducts and Conduits*, Case Nos. U-010741, U-010816, U-010831, Opinion and Order (Mich. Pub. Serv. Comm’n Feb. 11, 1997), *appeal denied*, 461 Mich. 853, 602 N.W.2d 386, 1999 Mich. LEXIS 3252, 1999 WL 711854 (Mich.); *In the Matter of Trenton Cable TV, Inc. v. Missouri Public Serv. Co.*, PA-81-0037, ¶ 4 (rel. Jan. 25, 1985) (“Since any rate within the range assures that the utility will receive at least the additional costs which would not be incurred but for the provision of cable attachments, that rate will not subsidize cable subscribers at the expense of the public.”).

1 Under the FCC rules, the cable and telecom formulas are calculated in exactly the same
2 manner as to the first two components of the rate formula, i.e., the net bare pole cost and the
3 carrying charge factor. Both of these components are calculated in a straightforward, but
4 multistep, process.

5 The net bare pole cost is calculated in the following four steps: First, the electric utility's
6 gross investment in pole cost is determined based on amounts reported in the utility's books of
7 account in Account 364 ("Poles, Towers and Fixtures").³¹ Second, this gross investment amount
8 is converted to a net investment figure by subtracting accumulated depreciation for pole plant
9 and accumulated deferred taxes applicable to poles. Third, the net investment in bare pole plant
10 is determined by making a further reduction to remove amounts booked to Account 364 for
11 "appurtenances," such as cross-arms, from which communications attachers do not benefit. The
12 fourth and final step is to divide the net investment in bare pole plant figure by the total number
13 of poles the utility has in service to derive a per-unit pole cost figure. It is this unitized net
14 investment figure that the formula multiplies by the other two components of the formula (i.e.,
15 the carrying charge factor and the space allocation factor) to derive the maximum pole rental
16 rate.

17 The carrying charge factor (CCF) is used to convert the net cost per bare pole investment
18 figure into an annualized cost. The carrying charge factor is comprised of the sum of five

³¹ Account 364 for poles is one of the detailed plant accounts that comprise the electric utility's primary general ledger Account 101 (Electric Plant in Service). See 18 C.F.R. Ch. 1, Pt. 101, p. 348, which defines Account 101 as to "include the original cost of electric plant, included in accounts 301 to 399, prescribed herein, owned and used by the utility in its electric utility operations, and having an expectation of life in service of more than one year from date of installation, including such property owned by the utility but held by nominees."

1 different expense factors including maintenance, depreciation, administrative, taxes, and overall
2 rate of return, each expressed as a percentage of expense to net plant in service.³² The
3 appropriate net plant in service figure used to calculate the various elements of the CCF will
4 depend on the level of aggregation with which the relevant expense data used in the numerator of
5 the calculation is tracked in the FERC reporting system or utility books of account. The
6 important principle to follow is one of consistency between the level of aggregation of the
7 expense data and the level of aggregation of the net plant investment figure. Once calculated,
8 these five expense elements are then summed together prior to being multiplied against the net
9 cost per bare pole component.

10 The overarching concept underlying the two FCC formulas is that they can be applied in
11 a straightforward manner, using publicly available information as reported in the FERC uniform
12 reporting system (i.e., FERC Form 1) where available, such that it can be updated annually with
13 a minimum of private, administrative effort, and little if any regulatory involvement. As with
14 any formulaic approach, the accuracy and integrity of the FCC formula depends on the accuracy
15 and integrity of the underlying data inputs. For this reason, it is very important that the data
16 inputs to the formula are subjected to careful scrutiny and held to a high standard as to their
17 reliability, accuracy, consistency, and ability to be verified. Also important is that there be

³² See *Amendment of Commission's Rules and Policies Governing Pole Attachments*, FCC Consolidated Partial Order on Reconsideration, 16 FCC Rcd 12103, at Appendix D-2 (2001) ("2001 Recon. Order") (setting forth the specific formulas and FERC accounts to be used when calculating the pole rate for electric utilities).

1 consistency between values of the numerator and the denominator in any of the ratios of expense
2 and investment relied on in the computation of the formula.

3 There are two exceptions to data being publicly available in the FERC reporting system,
4 where data inputs generally must be obtained from the books of the electric utility: the
5 depreciation rate for poles and the number of poles. In addition, in some instances, the FCC pole
6 attachment formulas may rely on other pieces of investment and expense data utilities maintain
7 in, or derive from, their internal accounting books and records at a level of disaggregation below
8 that publicly available in the FERC uniform reporting system.

9 In this case, for example, Unitil has provided data at the detailed plant account level for
10 accumulated depreciation and deferred income tax amounts used in the calculation of net
11 investment for poles (Account 364) as well as other plant accounts used in the development of
12 the carrying charge factor. To the extent this additional data has been provided by the utility,
13 and is not subject to dispute, it is reasonable to utilize the more detailed accounting data in the
14 formula rate calculation.

15 **Cable Rate Formula**

16 **Q. PLEASE DESCRIBE THE CABLE RATE FORMULA IN PARTICULAR**
17 **THAT YOU HAVE DETERMINED IS THE MOST APPROPRIATE METHOD FOR**
18 **SETTING POLE RATES IN NEW HAMPSHIRE PURSUANT TO PUC 1304.06?**

19 A. Consistent with the principle of cost causation, Section 224(d), upon which the FCC
20 cable rate formula is based, links the pole attachment rental to marginal costs, by establishing a
21 range of reasonableness that has marginal costs as a lower bound, and fully allocated cost as an
22 upper bound. The FCC cable rate formula adheres to the *greater* fully allocated cost standard

1 described in Section 224(d), which, by definition, allows the utility to recover through the rental
2 rate ongoing costs *much more* than marginal cost.³³ It does so by allowing recovery of a cost-
3 causative portion (based on relative use or occupancy of usable space on the pole) of the utilities'
4 operating expenses and capital costs (including overall return to capital) attributable to the entire
5 pole, based on actual booked costs.

6 **Q. WHAT IS THE FCC CABLE FORMULA FOR CALCULATING THE**
7 **MAXIMUM RENTAL RATE FOR POLES AS APPLIED TO ELECTRIC UTILITIES?**

8 A. The FCC cable formula consists of the three major components as described above: (1)
9 the net investment per bare pole, (2) a carrying charge factor, and (3) the percent of capacity,
10 defined as the percentage of total usable space occupied by an attacher. Expressed as an
11 equation, the FCC cable formula is as follows:

$$\frac{\text{FCC Cable Rate Formula}}{\text{[Space occupied by attacher / Usable Space on Pole]}} = \text{Net Bare Pole Cost} \times \text{Carrying Charge Factor} \times$$

14 Using the FCC's rebuttable presumptions of an average 37.5 foot joint-use pole, 1 foot of
15 space per communications attachment, and the availability of 13.5 feet of usable space on the
16 pole, the appropriate space allocator factor for the cable rate formula is 1/13.5 or 7.41%.³⁴ PSNH
17 has directly relied upon, these presumptive values in its rate calculation. While Unitil has relied

³³ See *Alabama Power Co.*, 311 F.3d at 1363, 1370.

³⁴ See *Amendment of Rules and Policies Governing Pole Attachments*, Report and Order, 15 FCC Rcd 6453 ¶ 16 (2000) (based on National Electrical Safety Code guidelines and data received during rulemaking proceedings, and “[t]o avoid a pole by pole rate calculation, the Commission adopted rebuttable presumptions of (1) an average 37.5 foot pole height; (2) 13.5 feet of usable space; and (3) one foot as the amount of space a cable television attachment occupies.”).

1 on its own pole inventory data for these input values, the space figures it uses are very close to
2 the FCC's presumptive values. The corresponding figures for Unifil are 1/13.82 or 7.24%.

3 **Q. WHAT ADVANTAGES DOES THE CABLE RATE FORMULA HAVE VIS-**
4 **À-VIS THE TELECOM RATE?**

5 A. There are many such advantages, a number of which have been discussed above in the
6 context of the six factor test. To recap, the cable formula offers the following favorable
7 attributes vis-à-vis the telecom rate formula:

- 8 • *Uses a proportionate versus per capita allocator more consistent with principles of cost*
9 *causation.* As recognized by Congress in adopting a cable rate formula based strictly on the
10 space occupancy of an attachment as the basis to allocate the cost of the entire pole (i.e., the
11 totality of usable and usable space), the costs associated with a third party attachment vary in
12 accordance with the relative use or occupancy of space by attaching entities and not
13 according to the number of attaching entities, in a manner directly analogous to other, well
14 accepted and familiar leasing arrangements such as an apartment building.³⁵
- 15 • *Uses a proportionate versus per capita allocator that more closely aligns with the production*
16 *of pole space:* An economic reality of poles is that they can readily accommodate multiple
17 attaching entities through the normal make-ready process of rearrangements and change-outs
18 (for which the attacher pays). This key feature of poles means that the addition of another

³⁵ See 123 Cong. Rec. 5080 (1977) (statement of Rep. Wirth) (“The renter of one of the ten units pays the cost of that unit plus one-tenth of the cost of the all common areas. He does not pay one-half of the cost of the common areas just because only one other person occupies the other nine units, but rather he pays his one-tenth share of all the costs attributable to the building.”).

1 entity on the pole does not result in the displacement of exclusion of another user or use by
2 the utility, and thus, from an economic perspective, there is no underlying cost causative
3 reason to allocate unusable or common space on the pole on the basis of the number of
4 attaching entities.³⁶

5 • *Better promotes deployment of advanced broadband services in competitive and technology*
6 *neutral fashion:* By not being based on the number of attaching entities, the cable rate
7 formula does not effectively penalize consumers, or conversely, reward utility owners of
8 essential pole facilities, for the failure of more widespread facilities based competition to
9 have materialized as expected in the post-1996 Act period. Similarly, it does not effectively
10 penalize firms adopting innovative new technologies, such as interconnected VoIP, which
11 provides voice services by sending packets of information over existing wires, and therefore
12 require no additional space on the pole and do not engender any new cost burden to the
13 utility. In this key regard, the cable rate formula is independent of, and hence more
14 competitively neutral than, the old telecom rate formula with respect to the impact of
15 technology and emerging competition.

16 • *Better promotes deployment of advanced broadband services in less populated, unserved or*
17 *underserved areas:* Due to generally less favorable economic conditions associated with
18 lower population densities, such areas typically have fewer attaching entities, which under
19 the old telecom rate formula, results in a presumptively higher pole attachment rate.
20 Ironically, the higher rate then serves to discourage investment in new infrastructure, the

³⁶ *Alabama Power Co.*, 311 F.3d at 1357, 1370-71 n.23.

1 deployment of new broadband services, and make new service offerings even less affordable
2 in the very areas of most concern to policymakers. The cable rate formula's relative use cost
3 allocation methodology does not so penalize less served areas, a fact directly acknowledged
4 by the FCC in its March 2010 National Broadband Plan, the FCC 2010 FNPRM that opened
5 on its heels and in the April 7, 2011 Order.³⁷

- 6 • *Best approximates competitive market result:* In a truly competitive market, there would be
7 multiple pole owners with their own infrastructure, each vying for buyers to rent space on
8 their poles. Under these circumstances, prices would tend to be bid down to levels
9 approximating marginal cost, which is essentially the cost of make-ready, i.e., the costs of
10 rearranging and adding space on an owner's poles. In the absence of competitive market
11 conditions, the FCC cable rate formula methodology, which more closely applies a cost
12 causative allocation methodology, better mimics the outcome of a competitive market with
13 its resultant benefits to consumers of lower rates and a greater array of innovative and
14 advanced service offerings.
- 15 • *Provides for a more straightforward, consistent and predictable application:* By strictly
16 relying on a proportionate cost allocation, the cable formula is more straightforward to
17 implement and provides for a more consistent and predictable application of the pole
18 attachment formula across service areas. These features are very important to firms in
19 making business case decisions to invest in new technology and to roll-out new services.

³⁷ See FCC National Broadband Plan at 110; FCC 2010 FNPRM ¶¶ 110-118. See also April 7, 2011 Order ¶¶ 172-181.

- 1 • *Less costly, fewer areas of contention to implement and administer:* Related to the preceding
2 point, because the cable formula is strictly based on a proportionate cost allocator, it does not
3 need a number of inputs required to run the telecom formula, i.e., the number of attaching
4 entities and the feet of unusable space, and in the case of the revised telecom rate formula, a
5 just and reasonable cost factor. This is particularly important as these inputs are often areas
6 of dispute among the parties, and the utility and pole specific audit data that would be needed
7 to verify these numbers are often not available.

8 **Differences with Old Telecom Rate Formula**

9 **Q. PLEASE EXPLAIN THE DIFFERENCES BETWEEN THE FCC CABLE**
10 **RATE FORMULA AND THE OLD TELECOM RATE FORMULA.**

11 A. The one place where the FCC cable and telecom rate formulas differ is in the calculation
12 of the space allocation factor and, in particular, the manner in which the telecom formula
13 allocates the costs associated with the *unusable* space on the pole. Whereas the FCC cable rate
14 formula assigns costs relating to the entire pole – including both usable and unusable space – on
15 the basis of a proportionate-use allocator, the FCC telecom rate formula methodology assigns the
16 cost of usable space on the pole based on the proportionate share of usable space occupied by the
17 attacher (exactly the same as the cable rate formula) but assigns costs relating to the unusable
18 space on the pole using a per-capita allocator. Specifically, as originally prescribed in the 1996
19 Telecom Act, the FCC telecom rate formula methodology takes 2/3 of the unusable space on the
20 pole and divides that equally by the number of attaching entities. Expressed as an equation, the
21 FCC's old telecom rate formula is as follows:

22

1 Original (Old) FCC Telecom Rate Formula =

2 Net Bare Pole Cost x Carrying Charge Factor x

3 [Usable Space Percentage + Unusable Space Percentage] where:

4 Usable Space Percentage =

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

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

7
8 Using the FCC's same rebuttable assumptions presented above for the cable formula (i.e.,
9 a 37.5 foot joint-use pole, 1 foot of space per communications attachment, and 13.5 feet of
10 usable space on the pole), the usable space percentage of the telecom space allocator factor
11 equals $(1/13.5) \times (13.5/37.5)$ or 2.67%. Given these same assumptions, there are 24 feet of
12 unusable space to apportion, since unusable space under FCC rules is defined as the space on the
13 pole other than the usable space $(37.5-13.5 = 24)$, consisting of the 6 feet of the pole that is
14 below ground and the 18 feet of the pole above grade required to clear possible interference and
15 obstacles and on which attachments cannot be made.

16 The FCC rules establish two presumptive numbers of attaching entities to use in
17 calculating the telecom formula" 5 for urbanized areas, and 3 for non-urbanized.³⁸ Using the
18 FCC presumptive number of 5 attaching entities in urbanized areas, the unusable space
19 percentage equals $(2/3) \times (24/37.5) \times (1/5)$ or 8.53%. Adding the usable and unusable space

³⁸ See 2001 Recon. Order ¶ 67 (“[W]e provide utilities the option of using our presumptive averages [3 for rural and 5 for urban] or developing averages for two areas: (1) urbanized (50,000 or higher population), and (2) non-urbanized (less than 50,000 population”); 47 C.F.R. §1.1417(c).

1 percentages together (2.67% + 8.53%) together produces a total space allocator factor for the
2 telecom formula of 11.20%. Similarly, using the FCC presumptive number of 3 attaching
3 entities in non-urbanized areas, the unusable space percentage equals $(2/3) \times (24/37.5) \times (1/3)$ or
4 14.22%. Adding the usable and unusable space percentages together (2.67% + 14.22%) together
5 produces a total space allocator factor for the telecom formula of 16.89%.

6 The problem that arises in connection with the telecom rate formula's use of an allocator
7 at odds with established cost causation principles identified in the discussion of factor #5 above
8 is compounded by the fact that the underlying costs of the pole that are currently being allocated
9 under the old telecom rate formula are fully allocated costs (the same as under the cable rate
10 formula). Indeed, for a number of expense categories, the direct cost linkage to pole attachments
11 is weak to non-existent. These problems with the old rate formula were the basis of the FCC's
12 decision to adopt a new revised telecom rate formula as described below.

13 **Revised Telecom Rate Formula**

14 **Q. PLEASE DESCRIBE THE FCC'S REVISED TELECOM RATE**
15 **FORMULA AND HOW IT DIFFERS FROM THE OLD FORMULA.**

16 A. In its April 7, 2011 Order, the FCC formally adopted revisions to the old telecom rate
17 formula. As explained in the FCC's 2010 FNPRM and the FCC's National Broadband Plan,
18 which gave rise to the FNPRM, revisions to the telecom rate formula were necessary in order to
19 achieve the vital national public policy goals of promoting broadband services deployment and
20 competition in telecommunications throughout all areas of the country. The pre-April 7, 2011

1 telecom rate formula generally produced rates much higher than the current cable rate.³⁹ Because
2 pole attachments are a vital input to broadband providers, the FCC found the significant price
3 differential between the cable and telecom rates discouraged investment in broadband
4 infrastructure and raised the costs to end users of broadband services. In addition, as found by
5 the FCC, a higher telecom rate deters cable companies from offering new and advanced services
6 such as interconnected VoIP that could potentially be classified as “telecom,” since those
7 companies would risk paying higher pole rental fees across their entire network.

8 The April 7, 2011 Order included formal adoption of the proposed range of just and
9 reasonable rates, with the higher bound rate set equal to the preexisting telecom rate and the
10 lower bound rate set equal to a new fully allocated rate limited to recovery of operating costs of
11 pole attachments (i.e., maintenance and administrative). The FCC affirmed its prior finding that
12 capital costs attributed to pole attachments under the preexisting cable and telecom rate formulas
13 (i.e., depreciation, taxes, and rate of return) are properly excluded from the lower bound rate for
14 telecom, in that attachers are “not the ‘cost causer’ of these costs,” as they “cause none or no
15 more than a *de minimis* amount of these costs, other than those that are recovered up front
16 through the make ready fees.”⁴⁰ The lower bound telecom rate formula methodology presented
17 in this report is a direct proxy for the economically efficient marginal cost of pole attachment –
18 the cost standard most conducive to achieving the goals set forth in the FCC’s National

³⁹ As described above, under FCC presumptions, the cable formula allocates to an attacher 7.41% of the fully allocated costs of pole attachments, whereas the pre-April 7, 2011 telecom formula allocated 11.2% of these same costs in urban areas and 16.89% of these costs in rural, resulting in telecom rates generally in the range of 50% to 130% higher than cable rates.

⁴⁰ April 7, 2011 Order ¶ 144.

1 Broadband Plan. Because the FCC rules set the maximum just and reasonable rate at the *higher*
2 of the upper and lower bound rate formula, and the latter excludes capital costs, it is most likely
3 the case that the upper bound formula is the applicable rate formula. Accordingly, unless
4 specifically noted, references in this testimony to the revised telecom rate formula will be to the
5 upper bound formula,

6 More specifically, to implement its goal of setting the telecom rate “as close to uniform
7 [in the vicinity of the current cable rate] as possible,” the FCC established a new just and
8 reasonable telecom rate, by “adopt[ing] a particular definition of cost” “[f]rom within the range
9 of possible interpretations of the term ‘cost’ for purposes of section 224(e).”⁴¹ Specifically, the
10 FCC adopted a definition of cost for urbanized areas as “66 percent of the fully allocated costs
11 used for purposes of the pre-existing telecom rate,” and a definition of cost for rural or non-
12 urbanized areas as “44 percent of the fully allocated costs,” where fully allocated cost is defined
13 as net bare pole cost times carrying charge factor (i.e., the first two components of the rate
14 formula for both cable and telecom formulas).⁴² Under this definition of cost and using FCC
15 presumptions (which remain unchanged under the new rules), the percentage of fully allocated
16 costs allocated under the revised telecom rate approximately equals that allocated under cable,
17 i.e., 7.41%.⁴³ Under the revised FCC rules, this definition of cost would be used to calculate the

⁴¹ *Id.* ¶¶ 134, 146.

⁴² *Id.* ¶ 149.

⁴³ For urban areas: $.66 \times 11.2\%$ (based on the presumption of 5 attaching entities) = 7.39%; for rural areas: $.44 \times 16.89\%$ (based on the presumption of 3 attaching entities) = 7.43%.

1 telecom rate, unless it produced a rate that fell below the FCC's lower bound rate, in which case,
2 the lower bound formula as described above would apply.⁴⁴ The revised formula is as follows:

3 Revised FCC Telecom Rate Formula (applies unless lower bound calculation is higher):
4 Net Bare Pole Cost x Carrying Charge Factor x
5 [Usable Space Percentage + Unusable Space Percentage] x Cost Factor where:
6 Usable Space Percentage =
7 (Space occupied by attacher / Usable Space) x (Usable Space/Pole Height); and
8 Unusable Space Percentage = 2/3 x (Unusable / Pole Height) x (1/No. Attachers); and
9 Cost Factor for Urbanized Area = .66; and for Non-urbanized area = .44

10 Despite the many reasons for adopting a single unified rate formula based on the cable
11 rate formula described above, and the PUC's ability pursuant to RSA 374:34-a to adopt a single
12 formula, should the PUC choose to adopt the bifurcated approach of having a separate telecom
13 rate formula, one refinement to the FCC methodology by the PUC is needed in order for to
14 achieve the FCC's clearly articulated rationale for revised formula. The two identified FCC cost
15 factors (.66 for urbanized areas, .44 for non-urbanized) are developed specifically to achieve the
16 desired result (a rate as close as possible to cable rate) at the FCC presumptive values (e.g.,
17 number of attaching entities, usable and unusable space and pole height presumptions). To the
18 extent utility specific inputs other than these FCC presumptive values are used – as is the case

⁴⁴ Based on calculations performed by FCC staff in the FNRPM, which I have also corroborated in my own rate calculations, the lower bound rate (calculated by including only operating cost elements of the carrying charge factor) is unlikely to be higher than the new just and reasonable telecom rate defined by the FCC.

1 with Unitil's rate calculations) – the specific cost factors identified by the FCC do not achieve
2 their stated purpose, and could lead to a rate more divergent from the cable rate than intended.

3 The most straightforward approach to remedy this unintended outcome is to apply a
4 variable cost factor based on the ratio of the space factor from the cable formula to the space
5 factor of the old telecom formula calculated using the utility specific data – rather than the fixed
6 percentages identified by the FCC calculated based on its presumptive number of attaching
7 entities. The proposed remedy is fully consistent with the FCC's revised methodology, for
8 which there was no independent cost basis other than the ratio that algebraically produces a
9 telecom rate roughly equivalent to cable. Again, the need for this particular refinement and the
10 additional inputs needed to run the telecom rate formula (i.e., number of attaching entities and
11 unusable space figure) would be avoided entirely if a unified rate approach based on the cable
12 rate formula is adopted by the PUC.

13 **DETERMINATION OF JUST AND REASONABLE UNIFIED BROADBAND POLE**
14 **ATTACHMENT RATES FOR PSNH AND UNITIL**

15 **Application of the FCC Cable Rate Formula to PSNH and Unitil**

16 **Q. YOU HAVE DESCRIBED ABOVE THE MANY ECONOMIC AND**
17 **PUBLIC POLICY REASONS WHY A UNIFIED BROADBAND POLE FORMULA**
18 **BASED ON THE FCC CABLE RATE FORMULA IS THE APPROPRIATE**
19 **METHODOLOGY. IS YOUR DETERMINATION DEPENDENT ON THE MIX OF**
20 **SERVICES THE CABLE COMPANY MAY BE PROVIDING, I.E., TRADITIONAL**
21 **CABLE, OR ADVANCED BROADBAND SERVICES INCLUDING INTERNET AND**
22 **INTERCONNECTED VOIP?**

1 A. No, it is not. From an economic cost perspective, the particular mix of services offered
2 by the cable provider (or CLEC) on its attached wire does not impact the amount of space
3 occupied by the attachment, or the costs incurred by the pole owner in connection with the cable
4 attachment. Accordingly, there is no basis under a cost causative approach for charging a rate
5 higher than that produced by the cable rate where no cost causative reason exists.

6 For example, in the case of interconnected VoIP services, voice communication is sent in
7 IP packets and carried through existing wires such that there is no new cost burden on the pole or
8 pole owner, either in the form of an additional attachment or by any other measure of cost
9 causative impact. To effectively penalize a cable operator for adding new or advanced
10 broadband services such as interconnected VoIP to its service mix is directly counter to the
11 widely accepted public policy goals to encourage such deployment and to promote broadband
12 voice service competition. It is also inconsistent with the regulatory policy goal to be
13 technology neutral, i.e., not influence the choice of technology deployed in the marketplace.
14 This is especially the case when deployment of the new technology is in the public interest, as is
15 so widely recognized with broadband.

16 **Q. IS YOUR OPINION REGARDING THE APPLICABILITY OF THE**
17 **CABLE RATE FORMULA TO COMMINGLED CABLE SERVICE OFFERINGS**
18 **INCLUDING INTERCONNECTED VOIP AFFECTED BY THE PUC'S 2011 DECISION**
19 **CLASSIFYING VOIP AS A "TELECOMMUNICATIONS SERVICE?"**

20 A. No, it is not. That the PUC previously issued a ruling that treated interconnected VoIP as
21 a "telecommunications" service does not affect the fundamental economic reasoning in support
22 of charging a unified broadband rate based on the cable rate formula. In addition, as explained

1 under the discussion of the rate review factor #1, the PUC's ruling does not address the issue of
2 pole attachment rates, but rather, was limited to certain consumer protection requirements. As
3 further explained, the PUC's ruling specifically noted it was not the PUC's intention to have any
4 competitive impact on the cable operators as would be certain to occur if it resulted in cable
5 operators paying substantially higher pole attachment rates as a result of the PUC's
6 classification. Finally, it is my understanding that recent legislation deregulated VoIP and
7 defined VoIP differently than telecommunications.⁴⁵

8 **Q. PLEASE EXPLAIN HOW YOU CALCULATED A JUST AND**
9 **REASONABLE UNIFIED BROADBAND POLE RATE BASED ON THE CABLE RATE**
10 **FORMULA FOR PSNH AND UNITIL.**

11 A. In calculating maximum just and reasonable pole attachment rates using the FCC cable
12 rate formula, I have adhered strictly to the methodology and presumptive averages pertaining to
13 space on poles set forth in the FCC rules and guidelines and described in the preceding section of
14 this testimony, with a couple of exceptions in the calculations performed for Unitil relating to
15 choice of data inputs used to run the formula.

16 In particular, my calculations use certain pieces of data pertaining to appurtenances and
17 accumulated depreciation that are not provided in the FERC Form accounts specified in the FCC
18 rules, but that are instead supported by utility internal accounting modules referred to as "Pole
19 Accountability Reporting." It is my understanding that Unitil's internal reporting records are
20 kept consistent with FCC rules, and hence I found it reasonable to rely on the utility's more

⁴⁵ House Calendar, Vol. 34, No. 37 (May 11, 2012), Pages 2046-2047.

1 granular reporting system. The second area where my calculations use data inputs other than
2 those expressly identified in FCC rules pertains to inputs for usable space per pole and pole
3 height. In lieu of the FCC’s presumptive values, I relied on Unitil specific data provided in Ex.
4 A-1 of the utility’s submission in this proceeding. That said, the Unitil specific data are very
5 close to FCC presumptive values.

6 **Q. PLEASE IDENTIFY THE RATES YOU CALCULATED FOR PSNH AND**
7 **UNITIL USING THE FCC CABLE RATE FORMULA.**

8 A. A summary of my rate results using the cable rate formula, in comparison with the rates
9 calculated by PSNH and Unitil in their June 2012 filings, are provided in Table 3 below. The
10 underlying calculations are provided in Attachments 2 and 3 to my testimony.

Table 3 Maximum Just and Reasonable Unified Broadband Pole Attachment Rates for PSNH and Unitil under FCC Cable Rate Formula		
Based on Year Ending ¹	PSNH	Unitil
Net Inv. Per Bare Pole	\$387.02	\$487.70
x Carrying Charges	35.12%	31.51%
x Space Factor	7.41%	7.24%
J&R Solely-Owned Pole	\$10.07	\$ 11.12
J&R Jointly-Owned Pole	\$5.03	\$5.56
¹ Calculations based on Y/E 2010 for PSNH, Y/E 2011 for Unitil.		

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1 **Q. HOW DO YOUR CALCULATIONS OF THE CABLE RATE FORMULA**
2 **DIFFER FROM THOSE PROVIDED BY THE UTILITIES?**

3 A. It is a testament to the straightforward nature of the FCC cable rate formula methodology
4 that there is effectively little dispute as to the basic mechanics of the formula. As shown in
5 Table 3, in the case of PSNH, my rate calculations using the FCC cable rate formula are
6 essentially identical. In the case of Unitil, however, my input data which is based on strict
7 application of the FCC methodology differ from those used by Unitil in a number of areas. I also
8 disagree with Unitil in the manner in which it has applied the formula to solely and jointly
9 owned poles.

10 **Q. WHAT IS THE PROBLEM WITH THE MANNER IN WHICH UNITIL**
11 **HAS APPLIED THE FORMULA TO SOLELY AND JOINTLY OWNED POLES?**

12 A. As shown in Table 3 on the preceding page, Unitil has calculated separate rates for solely
13 and jointly owned poles. Unitil's approach is problematic at two levels. First, Unitil's approach
14 is inconsistent with the FCC methodology which applies to pole investment account #364 as
15 recorded on the FERC Form 1 Report without regard to shared ownership agreements between
16 electric and telephone utilities. Under the FCC methodology, as followed by PSNH in its rate
17 calculations, one pole attachment rate is calculated based on the FERC Form 1 data. In cases
18 where pole ownership is shared, the pole rate for the electric utility is reduced by 1 minus the
19 utility's ownership percentage (typically in the vicinity of 50% for a jointly owned pole).

20 For example, in its rate calculations, PSNH derives a formula rate for poles of \$10.07
21 based on aggregate FERC account 364 pole investment and aggregate pole counts, which it
22 reduces by 50% to arrive at a rate of \$5.04 to be applied to jointly owned poles. By contrast,

1 Unitil disaggregates its pole account investment according to jointly and solely owned poles and
2 divides those disaggregated investment dollars by the number of poles in each such category to
3 arrive at separate net bare pole cost figures to be applied in the formula. The result of this
4 disaggregation process is remarkably disparate pole rates of \$15.84 and \$5.01, for solely owned
5 and jointly owned poles, respectively. (The components of the utility's rate calculations are
6 provided in Tables 4 and 5 below.)

7 Secondly, and more substantively, there is no meaningful economic or statistical basis for
8 treating these two subsets of utility poles (i.e., jointly owned and solely owned) separately for
9 purposes of calculating a just and reasonable rate – other than to artificially produce a higher
10 pole rate for solely owned poles. This is because poles are homogenous in nature – in more
11 layman's terms, this is often described as “a pole is a pole is a pole.” The fundamental cost
12 characteristics of a pole are not materially impacted by ownership status, which is subject to
13 change over time as electric and telephone utilities may and have transferred ownership in the
14 routine course of business. There is no change in the underlying pole just because the
15 investment associated with that pole transfers from one utility's books of account to another.
16 The distinction between solely and jointly owned poles is largely an artificial distinction, not an
17 economic one.

18 Interestingly, the data submitted by Unitil in this proceeding identifying average pole
19 characteristics (i.e., pole height and usable space) does not break down this data according to
20 sole or joint ownership. The data presented by PSNH on the other hand does (although, as noted
21 above, PSNH does not calculate separate solely and jointly owned rates). The PSNH data shows
22 that the vast majority of poles for both full and jointly owned poles all in same range of 30 to 45

1 feet (consistent with FCC presumptive value of 37.5 ft.). Unitil has presented no evidence in this
2 proceeding to conclude that fully or solely owned poles represent a different subpopulation of
3 poles from a real or economic perspective such as to justify a divergence from the FCC's well
4 accepted methodology.

5 To the contrary, separating the solely and jointly owned poles as if they were two distinct
6 subpopulations of poles produces a less accurate and less efficient rate, i.e., a rate that less
7 closely tracks cost, thereby sending distorted price signals to an attacher relative to their
8 respective use of these different types of pole resources. Attachers do not have any control over
9 whether they attach to a solely owned or jointly owned pole, it is largely a matter of happenstance.
10 Establishing pole attachment prices differently based on ownership percentages serves no
11 economic purpose since attachers cannot meaningful shift to the lower priced jointly owned pole.
12 To do so would typically make little sense from a business perspective and would be detrimental
13 from a public policy perspective in that it would discourage the deployment of advanced
14 broadband services across the state, and especially in less densely populated areas. In effect,
15 Unitil's proposed disaggregated pricing structure effectively serves as a means of imposing an
16 uneconomic surcharge on cable attachers not to build out in areas where the utility has sole
17 ownership of poles, areas that are likely to be subject to less competition to begin with.

18 It is my understanding that the majority of third party attachments are on jointly owned
19 poles, as would be expected given the much larger number of jointly owned poles relative to
20 solely owned poles on Unitil's books at the moment (49,725 as compared with 9,036).
21 Accordingly, Unitil's disaggregation of jointly and solely owned poles has a relatively small
22 impact on the rates paid by third party attachers in the aggregate. That said, Unitil's

1 disaggregation could have a very substantial competitive impact on an attacher who just
2 happened to be located on a disparately high number of solely owned poles.

3 **Q. PLEASE IDENTIFY THE DATA INPUTS UNITIL HAS USED IN ITS**
4 **RATE FORMULA CALCULATIONS THAT YOU DISAGREE WITH.**

5 A. There are two areas where the input data I use to run the FCC cable rate formula differ
6 from Unitil's. The first involves Unitil's use of a rate of return input higher than the identified
7 authorized rate of return by the PUC in its most recent determination. The second involves
8 Unitil's adjustments to the formula relating to the treatment of regulatory assets in the calculation
9 of Accumulated Deferred Taxes and Administrative and General Expenses.

10 **Q. WHAT IS THE PROBLEM WITH UNITIL'S RATE OF RETURN INPUT?**

11 A. The rate of return element of the carrying charge factor allows the utility to recover a
12 normal or fair (economic) return on capital from third party attachers over and above actual cost
13 recovery. Indeed, because it provides for additional cost recovery over and above actual or cost
14 causative costs, this factor is in fact eliminated entirely from the lower bound telecom rate
15 formula adopted by the FCC in 2011. However, in the case of the cable rate formula (and the
16 upper bound version of the revised telecom rate formula), pursuant to existing FCC rules, the
17 capital cost element of the carrying charge factor is to be set at the most current authorized rate
18 of return set by a state regulatory commission. In the absence of one, an FCC default rate of
19 return based on the last FCC return proceeding may be used. Because a state authorized rate of
20 return is available for Unitil, that number is the appropriate input value. The most recent PUC

1 decision concerning Unitil rates identifies that rate of return figure as 8.39%.⁴⁶ Unitil uses an
2 input value of 9.01% without any explanation as to why its value differs from the rate of return
3 adopted by the PUC.

4 **Q. WHAT IS THE PROBLEM WITH UNITIL'S ADJUSTMENTS FOR**
5 **REGULATORY ASSETS?**

6 A. As a general matter, the FCC formula methodology is very specific with respect to the
7 FERC accounts to be included within the formulas, based on a careful consideration of which
8 investment and expense accounts have demonstrative cost causative linkages to pole attachments
9 as opposed to the core electric utility service. Over the decades of FCC pole rate regulation,
10 utilities have repeatedly argued for the inclusion of additional accounts, and the FCC, after
11 careful consideration of utility arguments, has ruled against the inclusion of additional
12 investment or expense accounts on the grounds there is weak or non-existent cost causative
13 linkage to pole attachments,⁴⁷ or because the cost of any added precision in cost allocation is not
14 worth the added cost or complexity to the rate formula process associated with identifying and
15 tracking the portion of the investment or expense account that may be arguably allocated to poles
16 or pole attachments.⁴⁸ As noted earlier in the discussion of the FCC formula methodology (and

⁴⁶ See NH PUC Docket No. DE 10-055, Unitil Energy Systems, Inc. Notice of Intent to File Rate Schedules, Order Approving Settlement Agreement, PUC Order No. 25,214 at 7, 27 (Apr. 26, 2011).

⁴⁷ See, e.g., 2001 Recon. Order ¶ 119 (“because the costs or expenses reported to these accounts do not reflect a sufficient nexus to the operating expenses and actual capital costs of the utility attributable to the pole or conduit attachment”).

⁴⁸ See, e.g., *Amendment of Rules and Policies Governing Pole Attachments*, Report and Order, 15 FCC Rcd 6453 ¶¶ 38-39, 60-61 (2000) (“2000 Pole Order”) (internal citations omitted), *aff'd*, *Rules and Policies Governing Pole Attachments; Implementation of Section 703(e) of the Telecommunications Act of 1996*, Consolidated Partial Order

1 any formula methodology for that matter), the ability to verify and replicate year after year with
2 a minimum of administrative cost and dispute, are a hallmark of a good formula methodology.

3 Regulatory assets are a particular class of assets created for accounting purposes
4 pertaining to the cost recovery of extraordinary expenses, typically storm-related expenses.
5 Because of the recognition of these expenses as extraordinary in nature, such expenses are often
6 amortized over a number of years in order to minimize the severity of the impact in any given
7 year on the utility's financial records. The idea is to insulate ratepayers from having to absorb
8 the effect of these extraordinary expenses in any given rate year, but to ensure the utility receives
9 recovery over a specified number of years. At the end of the agreed-upon amortization period, in
10 principle, the regulatory asset is fully recovered and written off. As a general proposition, it
11 would be unjust and unreasonable for third party attachers to be charged a formula rate that
12 includes recovery of these extraordinary expenses for several reasons.

13 First, the types of extraordinary costs in question are from a cost causative perspective
14 more properly attributed to and recovered by rates for core electric service. Moreover, as with
15 expenses for related maintenance items such as tree trimming, third party attachers typically have
16 to bear their own costs relating to these types of expenses pursuant to pole agreements with the
17 utility. In addition, even assuming the inclusion of regulatory assets in the rate formula was

on Reconsideration, 16 FCC Rcd 12103 ¶¶ 120-124 (2001) (“Based on the record, we believe that any increased accuracy that would be derived from including some minute percentage of pole-related expenses that may be recorded in miscellaneous accounts, is outweighed by the complexity of arriving at an appropriate and equitable percentage of the expenses. The descriptions of what expense are to be reported to Accounts 365, 368, 580 and 583, contained in FERC Part 101, appear to relate more directly to the electric utilities’ core business operations than “actual capital costs attributable to the entire pole, duct, conduit, or rights-of-way, as required for inclusion in the rate formula.”).

1 deemed appropriate from a cost causative viewpoint (which again I do not believe is the case),
2 adjustments to the FCC formula methodology for regulatory assets as Unital has done introduces
3 unnecessary complexities and complications into the formula relating to the timing and amount
4 of authorized cost recovery that may not line up with the application of the rate formula, which is
5 intended to apply year after year with minimal regulatory oversight, unlike a rate proceeding.
6 Depending on the length of the amortization period, and adjustments to the amount of the
7 regulatory asset that tend to be made over time as more accurate information is available to the
8 regulator as to the actual allowable expenses incurred by the utility, there is the distinct
9 possibility that inclusion of such expenses based on snapshot adjustments to the rate formula
10 such as made by Unital in its rate calculations, will result in an excess recovery of utility
11 expenses from third party attachers.

12 With regard to the actual impact of Unital's adjustments for regulatory assets, they enter
13 into the rate calculation in several ways, further adding to the complexity. They enter into the
14 calculation of the carrying charge factor for Administrative and General expense, both on the
15 expense side in the data input for administrative and general expense (i.e., in the numerator of
16 the carrying charge factor), and on the investment side in the data input for accumulated deferred
17 taxes (i.e., in the denominator of the carrying charge factor). The combined effect of these
18 adjustments, both individually and collectively, is to increase the carrying charge factor for
19 Administrative and General expense.⁴⁹ Unital's adjustments for regulatory assets also enter into
20 the calculation of the net bare pole cost component. For that element, Unital's adjustment

⁴⁹ The CCF increases from 5.79% under the FCC's methodology to 6.68%, as shown in Attachment 3 to this testimony.

1 increases the amount of accumulated deferred taxes attributable to pole investment, which has
2 the effect of decreasing the amount of net investment per bare pole since accumulated deferred
3 taxes is an offset to gross pole investment. The overall impact of Unitil's adjustments for
4 regulatory assets is to increase the pole attachment rate, although that increase is mitigated by the
5 fact that the two ways in which the adjustments impact the formula, i.e., to increase the CCF for
6 Administrative and General Expense but to decrease the Net Investment per Bare Pole
7 component, work in offsetting ways.

8 For all of the various reasons set forth above, I believe Unitil's adjustments for regulatory
9 assets are inappropriate in determination of a just and reasonable rate. It is worth noting that
10 PSNH did not make any such adjustments, but rather, as noted above, strictly adhered to the FCC
11 methodology in its calculation of the cable rate (albeit, it has applied the wrong formula rate
12 calculation to interconnected VoIP).

13 **Application of the FCC Revised Telecom Formula to PSNH and Unitil**

14 **Q. YOU HAVE IDENTIFIED THE REVISED TELCOM RATE FORMULA AS**
15 **A SECOND BEST ALTERNATIVE TO THE CABLE FORMULA. SHOULD THE PUC**
16 **DECIDE TO IMPLEMENT A BIFURCATED AS OPPOSED TO A UNIFIED**
17 **APPROACH TO SETTING JUST AND REASONABLE RATES FOR POLE**
18 **ATTACHMENTS? HAVE YOU CALCULATED RATES BASED ON THE REVISED**
19 **TELECOM RATE FORMULA FOR PSNH AND UNITIL?**

20 A. Yes, I have. In calculating just and reasonable pole attachment rates using the FCC
21 revised telecom rate formula, I have adhered to the methodology and presumptive averages
22 pertaining to space on poles set forth in the FCC rules and guidelines and as described in the

1 preceding section of this testimony, that is consistent with the FCC's revised rules but necessary
2 to address Unitil's use of a number of attachers (i.e., 4 in the case of jointly owned poles) other
3 than the FCC's presumptive values of 3 and 5.

4 **Q. PLEASE DESCRIBE YOUR CALCULATIONS UNDER THE REVISED**
5 **FCC TELECOM FORMULA FOR PSNH AND HOW THEY DIFFER FROM THE**
6 **TELECOM RATE CALCULATIONS PROVIDED BY PSNH.**

7 A. As a general matter, as with PSNH's calculation of the FCC cable formula rate, my
8 calculations apply the same data inputs as PSNH, since PSNH appears to have strictly followed
9 the FCC rules with respect to the specific FERC expense and investment amounts to be included
10 and FCC presumptive values such as number of attaching entities and usable and unusable space
11 on the poles. However, I have a threshold disagreement as to PSNH's decision to calculate the
12 telecom rate formula based on the old, now abandoned telecom rate formula, and to have applied
13 a telecom formula at all.⁵⁰ As discussed above in some detail, the old formula has been
14 abandoned by the FCC and replaced with a revised formula expressly designed to produce a rate
15 as close as possible to the cable rate formula. The revised formula for all intents and purposes
16 has eliminated the differential or surcharge imposed by the old telecom rate formula. It is
17 instructive that Unitil's rate calculations, while containing a number of errors with respect to data
18 inputs and disaggregation of solely and jointly owned poles, apply the correct (revised) version
19 of the FCC's telecom formula. Using the same data and presumptions used by PSNH in its rate
20 calculations for year end 2010, I have calculated just and reasonable pole rates using the FCC's

⁵⁰ For reasons discussed in my testimony, PSNH erred in applying its telecom formula to interconnected VoIP services.

1 revised telecom formula. These calculations are provided below in Table 4 below, in a side-by-
2 side comparison with PSNH’s rate calculations, which again are based on the old telecom rate
3 formula.

Table 4 Comparison of Maximum Just and Reasonable Unified Broadband Pole Attachment Rates for PSNH and PSNH Pole Rate Calculations						
PSNH	Cable Rate Formula Unified Broadband		Telecom Rate - 3 AE ¹		Telecom Rate - 5 AE ¹	
			Revised Formula	Old Formula	Revised Formula	Old Formula
Based on Y/E 2011	Just&Reas	PSNH	Just&Reas	PSNH	Just&Reas	PSNH
Net Inv. Per Bare Pole	\$387.02	\$387.02	\$387.02	\$387.02	\$387.02	\$387.02
x Carrying Charges	35.12%	35.12%	35.12%	35.12%	35.12%	35.12%
x Space Factor ²	7.41%	7.41%	16.89%	16.89%	11.20%	11.20%
x Cost Factor ³			.44	n/a	.66	n/a
J&R Solely-Owned Pole	\$10.07	\$10.07	\$10.05	\$22.96	\$10.10	\$15.22
J&R Jointly-Owned Pole	\$5.03	\$5.04	\$5.03	\$11.48	\$5.04	\$7.61

¹Just and Reasonable rate calculated under revised telecom rate formula; PSNH rate calculated under old telecom formula.
²Both Just and Reasonable and PSNH rates calculated using FCC presumptive values for space factor (13.5ft usable space on 37.5 ft. pole), and FCC cost factors linked to FCC presumptions for space and number of attaching entities (3 non-urbanized, 5 urbanized).
³Just and Reasonable rate calculated using FCC cost factors applicable to FCC presumptive number of attaching entities. 47 C.F.R. § 1.1409(e)(2)(i).

4

5 **Q. PLEASE DESCRIBE YOUR CALCULATIONS UNDER THE REVISED**
6 **FCC TELECOM FORMULA FOR UNITIL AND HOW THEY DIFFER FROM THE**
7 **TELECOM RATE CALCULATIONS PROVIDED BY UNITIL.**

8 A. Like PSNH, Unitil improperly applies the telecom formula to interconnected VOIP in the
9 first instance, however, unlike Unlike PSNH, Unitil correctly uses the FCC revised telecom rate

1 formula, so the two sets of calculations are based on the same underlying formula. However, as
2 described above with respect to the cable rate formula calculations, unlike PSNH, Until makes a
3 number of errors relating to data inputs. In particular, Until's rate calculations contain the
4 following incorrect or flawed data inputs which are corrected for in my calculations of just and
5 reasonable rates:

- 6 • *Inappropriately disaggregates calculation of jointly and solely owned pole rates.* For the
7 reasons described above in connection with the cable rate formula calculations, there is no
8 valid economic or public policy rationale for making such a rate distinction. As does PSNH
9 in its rate calculations (and as the FCC provides), my just and reasonable rate calculations are
10 based on an aggregate calculation, and simply apply a 50% reduction factor to reflect proper
11 cost recovery for a jointly owned pole vis-à-vis a solely owned pole.
- 12 • *Inappropriately adjusts for regulatory assets in the data inputs for Accumulated Deferred*
13 *Taxes and in connection with the CCF for Administrative and General expenses.* For the
14 reasons described above in connection with the cable rate formula calculations, adjustments
15 of this kind dealing with regulatory assets add unnecessary complexity to the rate formula,
16 and can lead to uneconomic recovery or over-recovery of these types of expenses. As does
17 PSNH in its rate calculations, my just and reasonable rate calculations do not include any
18 adjustments for regulated assets, but simply rely on the FERC Form 1 data as publically
19 reported for the accounts specified pursuant to FCC rules.
- 20 • *Inappropriately uses a cost of capital input higher than the authorized rate of return by state*
21 *regulatory authority.* For the reasons described above in connection with the cable rate

1 formula calculations, Unitil has not justified its use of a rate of return input different from
2 that identified in the PUC's most recent order. My just and reasonable rate calculations rely
3 on the rate of return identified as authorized pursuant to the PUC's most recent decision.

- 4 • *Uses an unsupported number of attaching entities that differs from FCC presumptive values*
5 *of 3 and 5.* The FCC rules do allow for the use of a utility-specific number of attaching
6 entities, where that number can be supported by actual audit data or a statistically significant
7 sampling of poles derived on an attacher specific basis. Unitil does not provide any evidence
8 as to the source of its assumption of 4 attaching entities for a jointly owned pole. Absent
9 corroborating evidence with the credibility required pursuant to FCC rules, there is no basis
10 to rely on data inputs other than those reflected in the FCC's presumptive values, as relied on
11 by PSNH in its rate calculations. While a correct application of the FCC revised formula
12 adjusts the cost factor to account for the impact on the final rate result, the use of number of
13 attaching entities other than the FCC's presumptive values adds an unnecessary degree of
14 complication and possible dispute into the formula calculations. As does PSNH in its rate
15 calculations, my just and reasonable rate calculations effectively rely on the FCC
16 presumptive values of 3 and 5. My calculations do this by adjusting the cost factor as
17 described earlier in the testimony and summarized in the following bullet.

- 18 • Applies a higher "urbanized" cost factor of .66 to scenarios of 3 and 4 attaching entities
19 versus the appropriate cost factor of .44 specified in the FCC rules. Pursuant to the revised
20 FCC rules, a cost factor of .66 is applicable to urbanized areas where the number of attaching
21 entities is presumed to be 5, and a cost factor of .44 is applicable to non-urbanized area

1 where the number of attaching entities is presumed to be 4. These cost factors were derived
2 mathematically to result in a just and reasonable rate that essentially equals the cable rate
3 formula. For example, the non-urbanized cost factor (.44) provides for a lower percentage of
4 cost recovery vis-à-vis the cable rate formula to precisely offset the higher percentage of cost
5 recovery that the formula produces based on the smaller number of attaching entities.

6 Unitil, for reasons unexplained, but that are, in any event, inconsistent with the intended
7 purpose of the FCC rules, applies the urbanized cost factor of .66, but inputs for the number of
8 attaching entities that are less than the urbanized presumptive value of 5, and in the case of solely
9 owned poles, exactly equals the presumptive value for non-urbanized areas of 3. Pursuant to
10 FCC rules, Unitil should have applied the non-urbanized cost factor of .44 to be consistent with
11 the non-urbanized number of attaching entities. The effect of Unitil's mixing and matching of
12 cost factors and the number of attaching entities input is to produce an overstated rate well in
13 excess of the cable rate which is the intended result of the FCC presumptions.

14 My just and reasonable calculations correct for Unitil's error by applying the non-
15 urbanized cost factor of .44 to match an assumption of 3 attaching entities (which is the
16 presumptive value for non-urbanized areas), and a cost factor of .548 to match the assumption of
17 4 attaching entities. The latter is the mathematical formula equivalent to applying the FCC
18 presumptive values applicable to an urbanized area, i.e., use of a .66 cost factor and 5 attaching
19 entities. As noted above, the latter is the approach followed by PSNH, and it is a much less
20 complicated application of the revised telecom rate formula.

1 **Q. PLEASE PROVIDE THE RATE CALCULATIONS AS DESCRIBED**
2 **ABOVE.**

3 A. My calculations of just and reasonable pole rates for Unitil using the FCC’s revised
4 telecom formula as described above are provided below in Table 5 on the following page. Table
5 5 also provides a side-by-side comparison with Unitil’s rate calculations for data for the year
6 ending 2011.

Table 5 Comparison of Maximum Just and Reasonable Unified Broadband Pole Attachment Rates and Utility Pole Rate Calculations - Unitil							
Unitil	Cable Rate Formula / Unified Broadband Rate			Revised Telecom Formula ¹ – 3AE		Revised Telecom Formula ¹ - 4 AE	
Based on Y/E 2011	Just&R	Unitil Sole	Unitil Joint	Just&R	Unitil Sole	Just&R	Unitil Joint
Net Inv. Per Bare Pole	\$487.70	\$633.08	\$200.10	\$487.70	\$633.08	\$487.70	\$200.10
x Carrying Charges	31.51%	34.56%	34.56%	31.51%	34.56%	31.51%	34.56%
x Space Factor ²	7.24%	7.24%	7.24	16.71%	16.71%	13.20%	13.20%
x Cost Factor ²	n/a	n/a	n/a	.433	.66	.548	.66
J&R Solely-Owned Pole	\$11.12	15.84		\$11.12	\$24.13	\$11.12	
J&R Jointly-Owned Pole	\$5.56		\$5.01	\$5.56		\$5.56	\$6.03

¹ Both Just and Reasonable rates and Unitil rates calculated using revised telecom pole rate formula.
² Just and reasonable rates calculated for aggregate pole population, jointly and solely-owned combined.
³ Calculated using Unitil’s space factor (13.82 usable space on 37.57 ft. pole), and economically appropriate FCC cost factors for Unitil’s space factors and assumed number attaching entities.

1 **CONCLUSION**

2 **Q. PLEASE SUMMARIZE YOUR OVERALL CONCLUSIONS.**

3 A. As set forth in this testimony, there is no valid economic or public policy rationale for
4 allowing utilities to charge a pole attachment rate in excess of the compensatory cable rate.
5 Indeed, it is much more efficient economically and productive for society, that the prices for pole
6 attachment rates be kept as close to marginal cost as possible – especially when broadband
7 services deployment and adoption is so highly valued as a public policy goal. Again, any rate in
8 excess of marginal costs satisfies the economic standard for subsidy-free rates and the parallel
9 legal standard of just compensation for the pole owner. Given the widely acknowledged
10 economic and social benefits of accelerated and enhanced broadband deployment, the benefits of
11 adopting a uniform, administratively simple, predictable, and economically efficient cost-based
12 rate formula methodology for setting pole attachment rates – and, in particular, the long-
13 standing, well understood, and accepted FCC cable formula – is more important than ever.

14 Charging broadband services providers rates for pole access in excess of the FCC’s
15 economically efficient, cost-based and fully compensatory cable rate, e.g., those set at the much
16 higher old (and now abandoned) FCC telecom rate, would enable the pole-owning utility to
17 leverage its monopoly ownership of the pole network, contrary to effective pole attachment
18 regulation and at the expense of broadband services deployment in New Hampshire. Such an
19 outcome would be in direct contravention of the state’s Broadband Action Plan, which
20 specifically aims to keep high/and or increase the state’s ranking relative to other states with
21 which it directly competes for economic development opportunities and skilled labor force based
22 on cited broadband rankings. Adopting a bifurcated pole rate which penalizes attachments used

1 to provide advanced broadband services including interconnected VoIP could have an especially
2 detrimental impact on New Hampshire’s standing with respect to broadband services deployment
3 and adoption rates.

4 As discussed in this testimony, as a certified state, the PUC is not constrained, as is the
5 FCC, to adopt and maintain a bifurcated pricing structure. The FCC’s revised telecom rate
6 formula is designed to produce a rate as close to the cable rate formula as possible in order to
7 promote broadband services deployment and adoption.⁵¹ Accordingly, it is a much more
8 efficient and straightforward way to achieve these important goals – goals strongly embraced by
9 the state in its Broadband Action Plan⁵² – to adopt a unified rate formula set equal to the cable
10 rate in the first instance. In doing so, New Hampshire would be joining the overwhelming
11 majority of states that have certified to regulate pole attachments.

12 **Q. DOES THIS CONCLUDE YOUR TESTIMONY AT THIS TIME?**

13 A. Yes, it does.

14

⁵¹ See FCC National Broadband Plan at 110 (“To support the goal of broadband deployment, rates for pole attachments should be as low and as close to uniform as possible. The rate formula for cable providers articulated in Section 224(d) has been in place for 31 years and is ‘just and reasonable’ and fully compensatory for utilities. Through a rulemaking, the FCC should revisit its application of the telecommunications carrier rate formula to yield rates as close as possible to the cable rate.”); *id.* (“The impact of these rates can be particularly acute in rural areas, where there often are more poles per mile than households.... If the lower rates were applied, and if the cost differential in excess of \$8 per month were passed on to consumers, the typical monthly price of broadband for some rural consumers could fall materially. That could have the added effect of generating an increase – possibly a significant increase – in rural broadband adoption.”).

⁵² See NH Broadband Action Plan at 39.