D. Utilization Factor

38. To account for the fact that switch line ports are not used at 100% capacity, the Verizon Massachusetts cost study applies a "Utilization Adjustment Factor" to switch investment. Verizon applied this factor to the non-traffic sensitive investment in the switch to increase the non-traffic sensitive investment to account for the unused capacity. Some operational "headroom" in the switch is expected, to accommodate unexpected increases in demand or predictable failures in equipment.

39. As an input to the SCIS model in its Massachusetts cost study, Verizon assumed a 95% utilization rate and therefore used a utilization factor of 1.95.[26/] To the port investment produced by SCIS, Verizon adds an additional utilization factor of 1.8526,[27/] which results in a total utilization factor of approximately 1.81 for the analog port. In other words, Verizon assumes that only 81% of switch capacity will actually be in use, and Verizon's cost study increases the non-traffic sensitive switching investment by approximately 23% (1 / 0.81 = 1.23) to account for this spare capacity.

40. Verizon has substantially underestimated the switch utilization factor in Massachusetts. The 1.81 utilization factor is significantly lower than the value adopted by the FCC for use in the model of telecommunications network costs, the Hybrid Cost Proxy Model (HCPM) of 1.94.[28/]

26/ 2/14/97 Compliance Filing, Workpaper Part B, at 83-90 (VZ-MA App. H, Tab 198).

27/ 2/14/97 Compliance Filing, Workpaper Part B, at 1, line 2 (VZ-MA App. H, Tab 198).

28/ USF Tenth Report and Order, ¶ 330.

41. Using the FCC's utilization factor of 1.94 increases the non-traffic sensitive switching investment by only approximately 6.3% (1 / 0.94 = 1.06) – not 23%. If Verizon's analog port rates are recalculated substituting the 1.94 utilization factor – and changing no other inputs – the Massachusetts analog port rates are reduced by 13.7% in metro, urban and suburban areas.

E. Cost of Capital

42. As part of translating switching investments into recurring unit costs, the Verizon cost study applies an "Annual Switch Carrying Charge Factor" to switching investments. This factor includes the cost of maintenance of switching equipment, certain regulatory and property taxes, depreciation, and the cost of capital invested in the switching equipment. The cost of capital component of the factor is composed of the following elements: the cost of equity (the return on the shareholders' investment in the switches) and the cost of debt that is used to finance purchase of switches. These two elements are weighted to reflect how much of the switch investment is financed by shareholder investment and how much by debt.

43. The cost of capital component of the Annual Switch Carry Charge Factor used in Verizon's cost studies inflates Verizon's Massachusetts switching rates[29/] because it is based on a too high 13.59% cost of equity and assumes that 76.49% of switches were paid for by shareholders' investments and only 23.51% were paid for by borrowing.[30/] Stated another way, Verizon used a capital structure of 76.49% equity and 23.51% debt.

29/ As is true for the installation factor, Verizon's inflation of the cost of capital factor builds on every overestimation in the basic switch costs for a magnifying effect on its switch rates.

30/ 2/14/97 Compliance Filing, Workpaper Part B, Attachment E, at 2 (VZ-MA App. H, Tab 198).

44. As a result of these errors, Verizon's rates are based on a 12.16% cost of capital which is substantially higher than the 11.25% rate adopted by the FCC in parallel proceedings to determine both cost estimates for universal service and costs of supplying local access to long distance carriers in its interstate ratemaking proceedings.[31/] Neither of Verizon's cost of capital assumptions are cost-based. The 13.59% cost of equity factor is a number which the Massachusetts DTE selected as a compromise between an even higher Verizon number and proposals by CLECs. It was not actually supported by any cost information at all. The Arbitrator, and the DTE initially, had made a determination in the consolidated arbitration as to the proper method for calculating the cost of equity and using this method, Verizon reached a cost of equity of 11.38%. But after Verizon's motion for reconsideration, the DTE chose the 13.59% cost of equity.[32/]

45. Verizon's assumption of a capital structure heavily weighted to equity (76% equity) does not reflect Verizon's or other incumbent LECs' capital structures. Further, it is inconsistent with the FCC-approved capital structure of 44.2% debt and 55.8% equity financing.[33/] The equity-debt structure is a significant factor in inflating costs because equity is more costly than debt financing, among other reasons because it incurs income tax costs. With an overall income tax rate of 39%, each dollar of return to investor's equity capital must earn an additional $0.65 to pay income taxes. Thus, Verizon's assumption of a heavily equity-weighted

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31/ USF Tenth Report and Order, ¶¶ 432-435; In re Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers, CC Docket No. 89-624, Order, 5 F.C.C.R. 7507 , ¶ 231 (1990) ("Represcription Order").

32/ Phase 4-A Order at 5 (Att. 2).

33/ Represcription Order, ¶ 8.

capital structure (76.49% equity and 23.51% debt financing) dramatically increases the capital cost associated with switching equipment.

46. Substituting the FCC-approved cost of capital – and changing no other inputs – reduces analog port and local switching usage rates in Massachusetts by 7.6% in metro, urban and suburban areas.

F. Building Factor

47. The Verizon cost study also applies a "Building Factor" to installed switching investment to estimate the cost of constructing the wire center buildings which house the switches. The factor used by Verizon is 1.1835, which asserts that for every $100 in switching investment, $18.35 in building investment is required.

48. To derive this factor Verizon divided the total investment in its Massachusetts ARMIS account 2121 ("Buildings") by the total investment in ARMIS accounts 2211 ("Analog Switching"), 2212 ("Digital Switching"), 2220 ("Operator Systems"), 2231 ("Radio Systems") and 2232 ("Circuit Equipment").[34/] The effect of this calculation is to assign all of Verizon's investment in buildings in Massachusetts to these five central office-related accounts. Obviously, this assignment ignores all of the other uses to which buildings are put, such as housing office workers, engineers, sales representatives, etc.[35/]

34/ 2/14/97 Compliance Filing, Workpaper Part B, Attachment E, at 25 (VZ-MA App. H, Tab 198).

35/ As is true for the installation and cost of capital factors, Verizon's inflation of the building factor builds on every overestimation in the basic switch costs to magnify the effect on switch rates.

49. To correct this incorrect assignment, I divided the investment in New England Telephone Company's (one of the predecessors to Verizon) ARMIS 2121 ("Buildings") account by all of Verizon's other ARMIS investment accounts, except those associated with outside plant (i.e., cable and wire facilities, poles and conduits).[36/] The result of this calculation yielded a building factor of 1.1461.[37/]

50. If the more reasonable building factor of 1.1461 is substituted in the cost calculations for the unreasonable 1.1835 factor used by Verizon in Massachusetts – and changing no other inputs – the result is a 3.4% reduction in both analog port and local switching usage rates in metro, urban and suburban areas.

G. Power Factor

51. A final factor that Verizon overestimated in its Massachusetts cost study is the "Power Factor." The power factor is applied to switching investment to estimate the cost of supplying power equipment for use with switches, such as batteries and generators for emergency power. This factor is computed in much the same way as the installation factor, based on embedded values in Verizon's continuing property records.

36/ Specifically, I divided Massachusetts ARMIS account 2121 ("Buildings") by the total investment in ARMIS accounts 2211 ("Analog Switching"), 2212 ("Digital Switching"), 2220 ("Operator Systems"), 2231 ("Radio Systems") and 2232 ("Circuit Equipment"), as well as ARMIS accounts 2112 ("Motor Vehicles"), 2122 ("Furniture"), 2123 ("Office Equipment"), 2124 ("General Purpose Computers"), 2215.1 ("Step by Step Switching"), 2215.2 ("Crossbar Switching") and 2311 ("Information Origination and Termination").

37/ As an independent check of the validity of this factor, I also computed a factor based on a TELRIC, from-the-ground-up approach rather than Verizon's historic embedded costs. Using the building investment for wire centers as well as the building investment assigned to the local switching UNE by the HAI model, version 5.0a (which forms the basis of the building calculations in the FCC's High Cost Proxy Model), the resulting building factor was 1.1409.

52. Although Verizon claimed that power equipment added an additional 5% to the switch investment in a recent filing submitted to the NYPSC,[38/] Verizon based its Massachusetts rates on a power factor of 1.1072.[39/] Verizon, however, does not identify any differences in the cost of generators, batteries, etc. between Massachusetts and New York to explain why the Massachusetts power factor should be double what it proposes in New York. Indeed, in describing its 1.05 power factor proposal in New York, Verizon explained that the 1.05 factor was developed "on a region[al] basis."[40/] Thus, the factor proposed by Verizon in Massachusetts is simply unjustifiably inflated.[41/]

53. Recalculating Verizon's Massachusetts switching rates using its proposed power factor of 1.05 – and changing no other inputs – yields the following reductions – in metro areas, the analog port rate is reduced by 5.1% and the local switching usage rate is reduced by 3.8%; in urban areas, the analog port rate is reduced by 5.1% and the local switching usage rate is reduced by 3.5%; and in suburban areas, the analog port rate is reduced by 5.1% and the local switching usage rate is reduced by 3.7%.

38/ Panel Testimony of Bell Atlantic-New York on Revised Costs and Rates for Unbundled Network Elements and Related Wholesale Services, Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements, Case 98-C-1357 ("BA-NY Panel Testimony") at Workpaper, Part H, Section 1, at 5 and Exhibit Part H, Section 1, at 1 (NYPSC filed Feb. 7, 2000) (attached hereto as Att. 7).

39/ 2/14/97 Compliance Filing, Workpaper Part B, at 79 (VZ-MA App. H, Tab 198).

40/ BA-NY Panel Testimony at 53 (Att. 7).

41/ As is true for the installation, cost of capital and building factors, Verizon's inflation of the power factor builds on every overestimation in the basic switch costs to magnify the effect on switch rates.

IV. THE TOTAL SWITCHING INVESTMENT IN VERIZON'S COST STUDY IS AT LEAST FOUR TIMES TOO HIGH

54. A "macro" analysis of the total switching investment assumed by Verizon in its cost study confirms that Verizon's local switching usage and analog port rates are heavily inflated – by a multiple of approximately four. This analysis tests whether the switching investment assumed by Verizon to set unbundled switching rates is reasonable when compared with Verizon's reported embedded costs, or estimates of that cost from more objective sources.

55. The total switching investment used by Verizon to determine the rates adopted by the DTE is found in the workpapers filed by Verizon on February 14, 1997. The workpapers reveal that Verizon estimated the total switching investment required to serve its territory in Massachusetts at approximately $2.641 billion. Verizon calculated this figure by adding the total switching equipment investment ($1.306 billion),[42/] the capitalized installation costs ($0.854 billion),[43/] the power investment costs ($0.232 billion),[44/] and the capitalized costs of the software used to run the switch (i.e., right-to-use fees) ($0.250 billion).[45/]

56. The $2.641 billion total switching investment figure is more than four times Verizon's actual booked switching investment in Massachusetts at the time it undertook

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42/ 2/14/97 Compliance Filing, Workpaper Part B, at 93 (VZ-MA App. H, Tab 198) (row headed "Total Local Switch," summing up the columns for all four zones).

43/ Verizon calculated this figure by applying the 1.6541 installation factor to the $1.306 billion total switching investment.

44/ Verizon calculated this figure by applying the 1.1072 power factor to the sum of the total switching investment ($1.306 billion) and the capitalized installation costs ($0.854 billion).

45/ 2/14/97 Compliance Filing, Workpaper Part B, at 93 (VZ-MA App. H, Tab 198) (row headed "RTU Fees," summing up the columns for all four zones).

the cost studies. According to ARMIS data filed by Verizon in 1995, Verizon's historic, embedded gross investment in local switching plant in Massachusetts at the time it filed its cost study was $1.397 billion.[46/] This plant has depreciated over the years, so its current value net of accumulated depreciation is $0.603 billion.[47/] Since this net plant represents the economic value of Verizon's existing switch base for providing all services, it ought to be roughly comparable to the total Verizon investment of $2.641 billion. The fact that it is not suggests that Verizon's estimate of switching investment in its cost studies needs to be reduced by at least 77%, even if one fully credits Verizon's own books.

57. Equally revealing is that the $2.641 billion total switching investment figure is more than four times the FCC's estimate of the switching investment needed to serve Verizon's territory in Massachusetts. In order to compare Verizon's estimate with the FCC's, it is necessary to subtract investment related to ISDN lines. Verizon's estimated total switching investment includes the investment needed to provide switching service to all lines in Verizon's Massachusetts territory, including POTS, ISDN and Centrex lines. Meanwhile, the FCC's estimate of total switching investment excludes the line cards necessary to serve ISDN lines. The non-ISDN switching investment in Verizon's cost study can be computed by adding the reported non-ISDN switch equipment investment, applying the installation and power factors, and adding

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46/ This value is reported in ARMIS 43-04, column b-Subject to Separations, row 1219-Total COE Cat 3 Investment. The value can be downloaded from http://gullfoss2.fcc.gov/cgi-bin/websql/prod/ccb/armis1/forms/43-04/frame1.hts.

47/ ARMIS does not contain net plant by plant types. However, it does contain overall net plant. The estimate of net switching plant is computed by multiplying the gross plant by the ratio of Average Net Investment to Telephone Plant in Service from Verizon's 1995 ARMIS 43-01 (row 1910, column f and row 1690, column f). The data can be downloaded from http://gullfoss2.fcc.gov/cgi-bin/websql/prod/ccb/armis1/forms/43-01/frame1.hts.

the non-ISDN software costs.[48] This yields a total non-ISDN switching investment of $2.125 billion.

58. The FCC's estimate of total switching investment in Massachusetts was undertaken with help from Professors David Gable and Scott Kennedy and is based on the cost of switching equipment as listed in actual LEC switching contracts between 1989 and 1996. Adding to the cost of switching equipment the installation and power costs and right-to-use fees – just as in the Verizon's figure to which it is compared – the FCC calculated a total switching investment in Massachusetts of $0.491 billion.[49] This is also 77% lower than the comparable $2.125 billion non-ISDN investment in Verizon's cost study.

V. VERIZON'S UNBUNDLED TRANSPORT RATES ARE BASED ON UNJUSTIFIABLE AND UNREASONABLE INPUTS AND ASSUMPTIONS

59. As is the case with Verizon's estimates of the costs of switching, a number of the inputs and assumptions Verizon used to estimate transport costs in Massachusetts are unreasonable and unjustified. Indeed, to calculate rates for common transport, Verizon used the same building factor, cost of capital, and busy hour conversion factor that it used to estimate switching costs. And to calculate trunk port rates, Verizon used the same power factor, installation factor, building factor, busy hour conversion factor, cost of capital and vendor

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48/ Non-ISDN equipment is reported on page 93 of Verizon's Workpaper Part B in the line titled TOTAL Non-ISDN. 2/14/97 Compliance Filing, Workpaper Part B, at 93 (VZ-MA App. H, Tab 198). The non-ISDN software fees are on page 92 of Verizon's Workpaper B, where the per-line fee is computed to be $2.18 and the total non-ISDN lines are reported to be 3,766,178. Id. at 92.

49/ This investment is reported in cell AM3 of sheet ' Summary' in the Excel workbook MA_New England Tel-MA_Default Scenario_WC.xls. The file containing this workbook can be downloaded from http://www.fcc.gov/ccb/apd/hcpm.

discount that it used to estimate switching costs. Therefore, these inputs and assumptions suffer the same infirmities that I described in the switching section of this declaration. These erroneous assumptions and inputs, plus others unique to transport, have the effect of significantly inflating Verizon's transport rates.

A. Common Transport

60. Recalculating Verizon's common transport rates using more reasonable inputs and assumptions that are consistent with the findings of the FCC, other incumbent LECs and even of Verizon in other states, demonstrates that Verizon's Massachusetts per minute peak and off-peak common transport rates should be reduced in total by 62.2%. In other words, Verizon's rates for common transport in Massachusetts are nearly three times higher than is justified by their cost.

61. Verizon computes its common transport costs by first determining the costs of various pieces of equipment used to provide transport. To these equipment costs Verizon applies several inputs to determine a monthly cost for common transport. Relying on Verizon's equipment costs, I was able to reconstruct the calculations Verizon used to compute its monthly costs for common transport and thereby identify at least the following five unreasonable inputs and assumptions:

- An understated utilization factor applied to fiber cable and circuit equipment;
- An overstated cost of capital;
- An improper calculation of the cost of buildings associated with the circuit equipment used in transport;

- An improper calculation of the conversion of busy hour minutes of use to average annual minutes of use; and
- An overstated route-to-air multiplier.

62. Utilization Factor. The largest effect on Verizon's common transport rates arises from the unreasonably low utilization factor it assumes in its transport cost study. Verizon uses a factor of 1.50 (50% utilization rate) for both the circuit equipment and the fiber cables used in providing common transport.[50/] These fill factors are substantially lower than those adopted by the FCC in its proceeding to adopt a model for estimating telecommunications network costs for purposes of establishing a funding mechanism to support universal service. In that proceeding, the FCC assumed a circuit equipment utilization rate of 90% and a fiber cable utilization rate of 100%.[51/] Using these utilization rates in place of those used by Verizon in its cost study in Massachusetts – and changing no other inputs – lowers the per-minute peak and off-peak common transport rates by 44.6%.

63. Cost of Capital. Verizon uses the same methodology to compute its cost of capital for transport as it did for switching. As discussed supra, this results in a 12.16% cost of capital, which is significantly overstated. Substituting the FCC-approved 11.25% cost of capital – and changing no other inputs – reduces common transport rates by 11.3%.[52/]

50/ 2/14/97 Compliance Filing, Workpaper 5.4 Part C, at 1, line numbers 3 and 9 (VZ-MA App. H, Tab 198).

51/ The inputs adopted by the FCC can be examined in the "Results" files that can be downloaded at http://www.fcc.gov/ccb/apd/hcpm.

52/ This change in the cost of capital affects the annual carrying charge factor for circuit equipment (and the associated buildings), fiber cable, and conduit systems.

64. Building Factor. The investment in circuit equipment used in Verizon's model includes investment in the wire center buildings in which that circuit equipment resides. Verizon uses the same building factor for transport investment as it used for determining local switch investment. Using the corrected building factor of 1.1461 in the computation of transport – and changing no other inputs – lowers the peak and off-peak common transport rates by 2.2%.[53/]

65. Busy Hour Conversion Factor. To derive its per minute common transport rates, Verizon uses the same busy hour conversion factor it used to set its local switching rates. Again, this conversion factor assumes that no minutes of use occur on weekends. Using the same corrected busy hour conversion factor as was used in the analysis of local switching costs – and changing no other inputs – lowers common transport rates by 19.2%.

66. Route-to-Air Multiplier. The final key adjustment needed to correct Verizon's computation of its common transport costs is of the route-to-air multiplier Verizon assumed in its cost study. To determine the length of cable needed to provide transport, Verizon first determined the average air mileage between the nodes of the transport network. Because cable cannot in every case be placed in a direct line between the two nodes, this "as-the-crow-flies" distance would understate the amount of cable necessary. To recognize the fact that cable will need to follow roads or other natural paths, most cost models, including the model adopted by the FCC in its Universal Service proceeding and the HAI model, employ a route-to-air multiplier, just as Verizon does in its cost study. However, both the FCC model and the HAI

53/ The effect on transport rates is smaller than the effect on switching rates because most of the transport plant is in fiber cable and conduit systems, which are not associated with buildings.

model employ the lower route-to-air multiplier of 1.27, rather than Verizon's overstated multiplier of 1.42.

67. The size of the route-to-air multiplier depends on the route the cable must take. The air mileage can be thought of as the hypotenuse of a triangle, and the route mileage can be thought of as the two sides of the triangle.[54/] If the triangle is very flat – e.g., the horizontal distance covered is 100 miles and the vertical distance is 1 mile – the air mileage will be very close to the route mileage and the resulting route-to-air multiplier will be close to one.[55/] Meanwhile, the maximum route-to-air multiplier occurs when the horizontal and vertical distance to be traveled are equal. In this case, the route-to-air multiplier equals 1.414, which is even less than the value that Verizon uses. Thus, Verizon's route-to-air multiplier implies that their transport cables are not only routed over the worst case scenario, but also include some amount of back-hauled cable, i.e., the cable must in some cases be "taking two steps forward and one step back."

68. The lower 1.27 multiplier used in the FCC and HAI models reflects the fact that the routes along which the cable must be routed are equally likely to be any possibility between a straight line (in which case the multiplier would be one), or the worst case scenario (a multiplier of 1.414). It can be shown geometrically that the average multiplier for all these

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54/ Of course, the cable may take a route that reflects several turns, in a "stair-step" pattern, rather than taking a single turn, as in a triangle. However, the horizontal and vertical distance that is traveled by the cable is not affected by the number of turns, but only by the total horizontal and vertical distance between the two points being connected.

55/ In this case, the route mileage is 101 miles. Using the Pythagorean Theorem, the air mileage would be 100.005 miles (square root of the quantity 100 squared plus 1 squared), and the route-to-air multiplier would be 1.01.

possibilities is 1.27. Using this corrected multiplier in Verizon's cost model – and changing no other inputs – lowers common transport rates by 2.8%.

B. Trunk Port

69. Verizon computed trunk port rates in much the same way it calculated analog port rates and, in fact, used the same power factor, installation factor, building factor, busy hour conversion factor, cost of capital and vendor discount. Recalculating Verizon's trunk port rates in Massachusetts using each of the assumptions and inputs described above has a dramatic effect on Verizon's rates – overall, it reduces the DTE-approved trunk port rates for each density area by 79.76%. It also reduces the trunk port rates negotiated by Z-Tel for each density area by 73%. On their own, each erroneous assumption and input has the following effect on Verizon's trunk port rates:

70. Installation Factor. Substituting an installation factor of 1.10, which is within the range of what other incumbent LECs have reported, for the 1.654 factor used by Verizon in Massachusetts reduces the trunk port rate for each density area by 33.50%.

71. Vendor Discount. As it did to calculate switching rates, Verizon applied the much smaller discount it receives when purchasing add-on parts to existing switches rather than the larger discounts it actually receives when purchasing new switches. Substituting a 60% discount for new switch purchases for a 10% growth discount reduces the trunk port rate for each density area by 55.56%.

72. Busy Hour Conversion Factor. To derive its end office trunk port rates, Verizon uses the same busy hour conversion factor it used to set its switching rates, which assumes that no minutes of use occur on weekends. Using the same corrected busy hour

conversion factor as was used in the analysis of switching costs lowers the trunk port rate for each density area by 19.23%.

73. Cost of Capital. Verizon uses the same methodology to compute its cost of capital for transport as it did for switching. As discussed above, this results in a 12.16% cost of capital, which is significantly overstated. Substituting the FCC-approved 11.25% cost of capital reduces the trunk port rate for each density area by 7.64%.

74. Building Factor. As it did to calculate switching rates, Verizon used a building factor of 1.1835. Using the corrected building factor of 1.1461 in the computation of trunk port rates reduces the rate for each density area by 3.42%.

75. Power Factor. Substituting the 1.05 power equipment factor that Verizon recently proposed in New York for the 1.1072 factor it used in Massachusetts reduces the trunk port rate for each density area by 5.17%.

76. This concludes my Declaration on behalf of WorldCom.

I declare under penalty of perjury that the foregoing is true and correct. Executed on October 11, 2000.

Mark T. Bryant

DECLARATION OF MARK T. BRYANT

ATTACHMENT 1

Analog Port - Boston
TELRIC

Line #	Item A	Source B	As-Filed Value C	FCC Power Factor	FCC Utilization Factor	HAI Installation Multiplier	HAI Building Factor	Switch Discount Factor (.6 vs. .9)	Adjusted Cost of Capital	BH Conversion Fix	All
1	Switch Material Investment		$ 94.28	$ 94.28	$ 94.28	$ 94.28	$ 94.28	$ 41.90	$ 94.28	$ 94.28	$ 41.90
2	Utilization Adjustment Factor		0.8526	0.8526	0.9899	0.8526	0.8526	0.8526	0.8526	0.8526	0.9899
3	Adjusted Switch Material Investment	L1/L2	$ 110.58	$ 110.58	$ 95.24	$ 110.58	$ 110.58	$ 49.15	$ 110.58	$ 110.58	$ 42.33
4	Installation Factor	WP-B-p. 79	1.654	1.654	1.654	1.1	1.654	1.654	1.654	1.654	1.1
5	Installed Switch Investment	L3*L4	$ 182.90	$ 182.90	$ 157.53	$ 121.64	$ 182.90	$ 81.29	$ 182.90	$ 182.90	$ 46.56
6	Power Factor	WP-B-p. 79	0.1072	0.05	0.1072	0.1072	0.1072	0.1072	0.1072	0.1072	0.05
7	Installed Power Investment	L5*L6	$ 19.61	$ 9.14	$ 16.89	$ 13.04	$ 19.61	$ 8.71	$ 19.61	$ 19.61	$ 2.33
8	Per Line Right To Use Fees	WP-B-p. 92	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18
9	Total Installed Switching Investment	L5+L7+L8	$ 204.69	$ 194.22	$ 176.60	$ 136.86	$ 204.69	$ 92.18	$ 204.69	$ 204.69	$ 51.07
10	Annual Switch Carrying Charge Factor	EXH-Part E	0.1982	0.1982	0.1982	0.1982	0.1982	0.1982	0.1805	0.1982	0.1805
11	Annual Switch Cost	L9 * L10	$ 40.57	$ 38.50	$ 35.00	$ 27.13	$ 40.57	$ 18.27	$ 36.95	$ 40.57	$ 9.22
12	Buildings Factor	EXH-Part E	0.1835	0.1835	0.1835	0.1835	0.1461	0.1835	0.1835	0.1835	0.1461
13	Buildings Investment	L9 * L12	$ 37.56	$ 35.64	$ 32.41	$ 25.11	$ 29.90	$ 16.92	$ 37.56	$ 37.56	$ 7.46
14	Annual Buildings Carrying Charge Factor	EXH-Part E	0.2236	0.2236	0.2236	0.2236	0.2236	0.2236	0.1852	0.2236	0.1852
15	Annual Buildings Cost	L13 * L14	$ 8.40	$ 7.97	$ 7.25	$ 5.62	$ 6.69	$ 3.78	$ 6.96	$ 8.40	$ 1.38
16	Monthly TELRIC Cost	(L11 + L15)/12	$ 4.08	$ 3.87	$ 3.52	$ 2.73	$ 3.94	$ 1.84	$ 3.66	$ 4.08	$ 0.88
17	Common Factor	EXH-Part E	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085
18	Monthly Common Cost	[(L9 + L13) * L17]/1	$ 0.17	$ 0.16	$ 0.15	$ 0.11	$ 0.17	$ 0.08	$ 0.17	$ 0.17	$ 0.04
19	Directly Attributable Joint Factor	EXH-Part E	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
20	Monthly Directly Attributable Joint Cost	[(L9 + L13) * L19] /12	$ 1.27	$ 1.21	$ 1.10	$ 0.85	$ 1.23	$ 0.57	$ 1.27	$ 1.27	$ 0.31
	Total TELRIC Cost	L16 + L18 + L20	$ 5.52	$ 5.24	$ 4.77	$ 3.69	$ 5.34	$ 2.49	$ 5.10	$ 5.52	$ 1.23
	% Reduction			5.11%	13.72%	33.14%	3.41%	54.96%	7.64%	0.00%	77.70%

Variable Local Switch Usage - Boston
TELRIC

Line #	Item A	Source B	As-Filed Value C	FCC Power Factor	FCC Utilization Factor (1)	HAI Installation Multiplier (2)	HAI Building Factor	Switch Discount Factor (.6 vs. .9)	Adjusted Cost of Capital	BH Conversion Fix	All
1	Traffic Sensitive Switch Material Investment	WP-B-p. 93	$ 44,802,367.06	$ 44,802,367.06	$ 44,802,367.06	$ 44,802,367.06	$ 44,802,367.06	$ 19,912,163.14	$ 44,802,367.06	$ 44,802,367.06	$ 19,912,163.14
2	Busy Hour Traffic in MOU	WP-B-p. 96	3,545,971	3,545,971	3,545,971	3,545,971	3,545,971	3,545,971	3,545,971	3,545,971	3,545,971
3	Material Investment Per BH MOU	L1/L2	$ 12.63	$ 12.63	$ 12.63	$ 12.63	$ 12.63	$ 5.62	$ 12.63	$ 12.63	$ 5.62
4	Installation Factor	wp-B-p. 79	1.6541	1.6541	1.6541	1.1	1.6541	1.6541	1.6541	1.6541	1.1
5	In Place Switch Investment	L3 * L4	$ 20.90	$ 20.90	$ 20.90	$ 13.90	$ 20.90	$ 9.29	$ 20.90	$ 20.90	$ 6.18
6	Power Factor	WP-B-p. 79	0.1072	0.05	0.1072	0.1072	0.1072	0.1072	0.1072	0.1072	0.05
7	In Place Power Investment	L5 * L6	$ 2.24	$ 1.04	$ 2.24	$ 1.49	$ 2.24	$ 1.00	$ 2.24	$ 2.24	$ 0.31
8	Right to Use Fees	WP-B-P. 92	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9	Per MOU Right to Use Fees	L8/L2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	Total In Place Switching Investment per BH MOU	L5 + L7 + L9	$ 23.14	$ 21.94	$ 23.14	$ 15.39	$ 23.14	$ 10.28	$ 23.14	$ 23.14	$ 6.49
11	Annual Switch Carrying Charge Factor	EXH-Part E	0.1982	0.1982	0.1982	0.1982	0.1982	0.1982	0.1805	0.1982	0.1805
12	Annual Switch Cost per BH MOU	L10 * L11	$ 4.59	$ 4.35	$ 4.59	$ 3.05	$ 4.59	$ 2.04	$ 4.18	$ 4.59	$ 1.17
13	Buildings Factor	EXH-Part E	0.1835	0.1835	0.1835	0.1835	0.1461	0.1835	0.1835	0.1835	0.1461
14	Buildings Investment per BH MOU	L10 * L13	$ 4.25	$ 4.03	$ 4.25	$ 2.82	$ 3.38	$ 1.89	$ 4.25	$ 4.25	$ 0.95
15	Annual Buildings Carrying Charge Factor	EXH-Part E	0.2236	0.2236	0.2236	0.2236	0.2236	0.2236	0.1852	0.2236	0.1852
16	Annual Buildings Cost per BH MOU	L14 * L 15	$ 0.95	$ 0.90	$ 0.95	$ 0.63	$ 0.76	$ 0.42	$ 0.79	$ 0.95	$ 0.18
17	Annual TELRIC Cost per BH MOU	L12 + L16	$ 5.54	$ 5.25	$ 5.54	$ 3.68	$ 5.34	$ 2.46	$ 4.96	$ 5.54	$ 1.35
18	Common Factor	EXH-Part E	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085
19	Annual Common Cost per BH MOU	(L10 + L14)* L18	$ 0.23	$ 0.22	$ 0.23	$ 0.15	$ 0.23	$ 0.10	$ 0.23	$ 0.23	$ 0.06
20	Directly Attributable Joint Factor	EXH-Part E	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
21	Annual Directly Attributable Joint Cost per BH MOU	(L10 + L14)* L20	$ 1.73	$ 1.64	$ 1.73	$ 1.15	$ 1.67	$ 0.77	$ 1.73	$ 1.73	$ 0.47
22	BH to All Hours of the Day (AHD) Conversion Factor	WP-B-p. 81	2457.00	2457.00	2457.00	2457.00	2457.00	2457.00	2457.00	3042.00	3042.00
23	Variable TELRIC Cost per MOU (AHD)	L17/L22	$ 0.00225	$ 0.00214	$ 0.00225	$ 0.00150	$ 0.00217	$ 0.00100	$ 0.00202	$ 0.00182	$ 0.00044
24	Variable Common Cost per MOU (AHD)	L19/L22	$ 0.00009	$ 0.00009	$ 0.00009	$ 0.00006	$ 0.00009	$ 0.00004	$ 0.00009	$ 0.00008	$ 0.00002
25	Variable Directly Attributable Joint Cost per MOU (AHD)	L21/L22	$ 0.00070	$ 0.00067	$ 0.00070	$ 0.00047	$ 0.00068	$ 0.00031	$ 0.00070	$ 0.00057	$ 0.00015
26	Total TELRIC Cost		$ 0.00305	$ 0.00289	$ 0.00305	$ 0.00203	$ 0.00295	$ 0.00136	$ 0.00282	$ 0.00246	$ 0.00062
	% Reduction			5.17%	0.00%	33.50%	3.41%	55.56%	7.64%	19.23%	79.76%

Fixed Local Switch Usage - Boston
TELRIC

Line #	Item A	Source B	As-Filed Value C	FCC Power Factor	FCC Utilization Factor (1)	HAI Installation Multiplier (2)	HAI Building Factor	Switch Discount Factor (.6 vs. .9)	Adjusted Cost of Capital	BH Conversion Fix	All
1	Traffic Sensitive Switch Material Investment	WP-B-p. 93	$ 8,683,815.00	$ 8,683,815.00	$ 8,683,815.00	$ 8,683,815.00	$ 8,683,815.00	$ 3,859,473.33	$ 8,683,815.00	$ 8,683,815.00	$ 3,859,473.33
2	Busy Hour Traffic in MOU	WP-B-p. 96	3,545,971	3,545,971	3,545,971	3,545,971	3,545,971	3,545,971	3,545,971	3,545,971	3,545,971
3	Material Investment Per BH MOU	L1/L2	$ 2.45	$ 2.45	$ 2.45	$ 2.45	$ 2.45	$ 1.09	$ 2.45	$ 2.45	$ 1.09
4	Installation Factor	wp-B-p. 79	1.6541	1.6541	1.6541	1.1	1.6541	1.6541	1.6541	1.6541	1.1
5	In Place Switch Investment	L3 * L4	$ 4.05	$ 4.05	$ 4.05	$ 2.69	$ 4.05	$ 1.80	$ 4.05	$ 4.05	$ 1.20
6	Power Factor	WP-B-p. 79	0.1072	0.05	0.1072	0.1072	0.1072	0.1072	0.1072	0.1072	0.05
7	In Place Power Investment	L5 * L6	$ 0.43	$ 0.20	$ 0.43	$ 0.29	$ 0.43	$ 0.19	$ 0.43	$ 0.43	$ 0.06
8	Right to Use Fees	WP-B-P. 92	$ 13,119,680	$ 13,119,680	$ 13,119,680.00	$ 13,119,680.00	$ 13,119,680.00	$ 13,119,680.00	$ 13,119,680.00	$ 13,119,680.00	$ 13,119,680.00
9	Per MOU Right to Use Fees	L8/L2	$ 3.70	$ 3.70	$ 3.70	$ 3.70	$ 3.70	$ 3.70	$ 3.70	$ 3.70	$ 3.70
10	Total In Place Switching Investment per BH MOU	L5 + L7 + L9	$ 8.18	$ 7.95	$ 8.18	$ 6.68	$ 8.18	$ 5.69	$ 8.18	$ 8.18	$ 4.96
11	Annual Switch Carrying Charge Factor	EXH-Part E	0.1982	0.1982	0.1982	0.1982	0.1982	0.1982	0.1805	0.1982	0.1805
12	Annual Switch Cost per BH MOU	L10 * L11	$ 1.62	$ 1.58	$ 1.62	$ 1.32	$ 1.62	$ 1.13	$ 1.48	$ 1.62	$ 0.89
13	Buildings Factor	EXH-Part E	0.1835	0.1835	0.1835	0.1835	0.1461	0.1835	0.1835	0.1835	0.1461
14	Buildings Investment per BH MOU	L10 * L13	$ 1.50	$ 1.46	$ 1.50	$ 1.23	$ 1.20	$ 1.04	$ 1.50	$ 1.50	$ 0.72
15	Annual Buildings Carrying Charge Factor	EXH-Part E	0.2236	0.2236	0.2236	0.2236	0.2236	0.2236	0.1852	0.2236	0.1852
16	Annual Buildings Cost per BH MOU	L14 * L 15	$ 0.34	$ 0.33	$ 0.34	$ 0.27	$ 0.27	$ 0.23	$ 0.28	$ 0.34	$ 0.13
17	Annual TELRIC Cost per BH MOU	L12 + L16	$ 1.96	$ 1.90	$ 1.96	$ 1.60	$ 1.89	$ 1.36	$ 1.76	$ 1.96	$ 1.03
18	Common Factor	EXH-Part E	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085
19	Annual Common Cost per BH MOU	(L10 + L14)* L18	$ 0.08	$ 0.08	$ 0.08	$ 0.07	$ 0.08	$ 0.06	$ 0.08	$ 0.08	$ 0.05
20	Directly Attributable Joint Factor	EXH-Part E	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
21	Annual Directly Attributable Joint Cost per BH MOU	(L10 + L14)* L20	$ 0.61	$ 0.59	$ 0.61	$ 0.50	$ 0.59	$ 0.42	$ 0.61	$ 0.61	$ 0.36
22	BH to All Hours of the Day (AHD) Conversion Factor	WP-B-p. 81	2457.00	2457.00	2457.00	2457.00	2457.00	2457.00	2457.00	3042.00	3042.00
23	Fixed TELRIC Cost per MOU (AHD)	L17/L22	$ 0.00080	$ 0.00077	$ 0.00080	$ 0.00065	$ 0.00077	$ 0.00055	$ 0.00071	$ 0.00064	$ 0.00034
24	Fixed Common Cost per MOU (AHD)	L19/L22	$ 0.00003	$ 0.00003	$ 0.00003	$ 0.00003	$ 0.00003	$ 0.00002	$ 0.00003	$ 0.00003	$ 0.00002
25	Fixed Directly Attributable Joint Cost per MOU (AHD)	L21/L22	$ 0.00025	$ 0.00024	$ 0.00025	$ 0.00020	$ 0.00024	$ 0.00017	$ 0.00025	$ 0.00020	$ 0.00012
	Total TELRIC Cost		$ 0.00108	$ 0.00105	$ 0.00108	$ 0.00088	$ 0.00104	$ 0.00075	$ 0.00100	$ 0.00087	$ 0.00047
	% Reduction			2.83%	0.00%	18.36%	3.41%	30.44%	7.64%	19.23%	56.27%

Total Local Switch Usage - Boston
TELRIC

Line #	Item A	Source B	As-Filed Value C	FCC Power Factor	FCC Utilization Factor (1)	HAI Installation Multiplier (2)	HAI Building Factor	Switch Discount Factor (.6 vs. .9)	Adjusted Cost of Capital	BH Conversion Fix	All
1	Variable TELRIC Cost per MOU (AHD)	WP-B-p. 10	$ 0.002253	$ 0.002137	$ 0.00225	$ 0.00150	$ 0.00217	$ 0.00100	$ 0.00202	$ 0.00182	$ 0.00044
2	AHD to Peak Period Conversion Factor	WP-B-p. 80	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
3	AHD to Off-Peak Period Conversion Factor	WP-B-p.80	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
4	Variable TELRIC Cost per Peak Period MOU	L1 * L2	$ 0.002636	$ 0.002500	$ 0.002636	$ 0.001753	$ 0.002544	$ 0.001172	$ 0.002363	$ 0.002129	$ 0.000518
5	Variable TELRIC Cost per Off-Peak Period MOU	L1 * L3	$ 0.000586	$ 0.000556	$ 0.000586	$ 0.000390	$ 0.000565	$ 0.000260	$ 0.000525	$ 0.000473	$ 0.000115
6	Fixed TELRIC Cost per MOU	WP-B-p. 9	$ 0.000797	$ 0.000774	$ 0.000797	$ 0.000651	$ 0.000769	$ 0.000554	$ 0.000715	$ 0.000644	$ 0.000338
7	Total TELRIC Cost per Peak Period MOU	L4 + L6	$ 0.003433	$ 0.003274	$ 0.003433	$ 0.002404	$ 0.003313	$ 0.001726	$ 0.003078	$ 0.002773	$ 0.000856
8	Total TELRIC Cost per Off-Peak Period MOU	L5 + L6	$ 0.001383	$ 0.001330	$ 0.001383	$ 0.001040	$ 0.001334	$ 0.000815	$ 0.001240	$ 0.001117	$ 0.000453
9	Variable Common Cost per MOU (AHD)	WP-B-p. 10	$ 0.000095	$ 0.000090	$ 0.000095	$ 0.000063	$ 0.000092	$ 0.000042	$ 0.000095	$ 0.000077	$ 0.000021
10	AHD to Peak Period Conversion Factor	WP-B-p. 80	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
11	AHD to Off-Peak Period Conversion Factor	WP-B-p.80	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
12	Variable Common Cost per Peak Period MOU	L9 * L10	$ 0.000111	$ 0.000105	$ 0.000111	$ 0.000074	$ 0.000107	$ 0.000049	$ 0.000111	$ 0.000090	$ 0.000024
13	Variable Common Cost per Off-Peak Period MOU	L9 * L 11	$ 0.000025	$ 0.000023	$ 0.000025	$ 0.000016	$ 0.000024	$ 0.000011	$ 0.000025	$ 0.000020	$ 0.000005
14	Fixed Common Cost per MOU	WP-B-p. 9	$ 0.000034	$ 0.000033	$ 0.000034	$ 0.000027	$ 0.000032	$ 0.000023	$ 0.000034	$ 0.000027	$ 0.000016
15	Total Common cost per Peak MOU	L12 + L14	$ 0.000144	$ 0.000138	$ 0.000144	$ 0.000101	$ 0.000140	$ 0.000073	$ 0.000144	$ 0.000117	$ 0.000040
16	Total Common cost per Off-Peak MOU	L13 + L14	$ 0.000058	$ 0.000056	$ 0.000058	$ 0.000044	$ 0.000056	$ 0.000034	$ 0.000058	$ 0.000047	$ 0.000021
17	Variable Directly Attributable Joint cost per MOU (AHD)	WP-B-p. 10	$ 0.00070	$ 0.00067	$ 0.00070	$ 0.00047	$ 0.00068	$ 0.00031	$ 0.00070	$ 0.00057	$ 0.00015
18	AHD to Peak Period Conversion Factor	WP-B-p. 80	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
19	AHD to Off-Peak Period Conversion Factor	WP-B-p.80	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
20	Variable Directly Attributable Joint cost per Peak Period MOU	L17 * L18	$ 0.000822	$ 0.000779	$ 0.000822	$ 0.000546	$ 0.000796	$ 0.000365	$ 0.000822	$ 0.000664	$ 0.000180
21	Variable Directly Attributable Joint cost per Off-Peak Period MOU	L17 * L19	$ 0.000183	$ 0.000173	$ 0.000183	$ 0.000121	$ 0.000177	$ 0.000081	$ 0.000183	$ 0.000147	$ 0.000040
22	Fixed Directly Attributable Joint Cost per MOU	WP-B-p. 9	$ 0.000248	$ 0.000241	$ 0.000248	$ 0.000203	$ 0.000241	$ 0.000173	$ 0.000248	$ 0.000201	$ 0.000118
23	Total Directly Attributable Joint Cost per Peak Period MOU	L20 + L22	$ 0.001070	$ 0.001020	$ 0.001070	$ 0.000749	$ 0.001036	$ 0.000538	$ 0.001070	$ 0.000864	$ 0.000298
24	Total Directly Attributable Joint Cost per Off-Peak Period MOU	L21 + L22	$ 0.000431	$ 0.000414	$ 0.000431	$ 0.000324	$ 0.000417	$ 0.000254	$ 0.000431	$ 0.000348	$ 0.000158
	Total Peak Period per MOU		$ 0.004647	$ 0.004432	$ 0.004647	$ 0.003254	$ 0.004489	$ 0.002336	$ 0.004292	$ 0.003754	$ 0.001194
	Total Off-Peak per MOU		$ 0.001872	$ 0.001800	$ 0.001872	$ 0.001408	$ 0.001808	$ 0.001103	$ 0.001729	$ 0.001512	$ 0.000632
	% Reduction			3.82%	0.00%	24.77%	3.41%	41.08%	7.64%	19.23%	66.22%

Analog Port - Urban
TELRIC

Line #	Item A	Source B	As-Filed Value C	FCC Power Factor	FCC Utilization Factor	HAI Installation Multiplier	HAI Building Factor	Switch Discount Factor (.6 vs. .9)	Adjusted Cost of Capital	BH Conversion Fix	All
1	Switch Material Investment		$ 85.32	$ 85.32	$ 85.32	$ 85.32	$ 85.32	$ 37.92	$ 85.32	$ 85.32	$ 37.92
2	Utilization Adjustment Factor		0.8526	0.8526	0.9899	0.8526	0.8526	0.8526	0.8526	0.8526	0.9899
3	Adjusted Switch Material Investment	L1/L2	$ 100.07	$ 100.07	$ 86.19	$ 100.07	$ 100.07	$ 44.48	$ 100.07	$ 100.07	$ 38.31
4	Installation Factor	WP-B-p. 79	1.654	1.654	1.654	1.1	1.654	1.654	1.654	1.654	1.1
5	Installed Switch Investment	L3*L4	$ 165.52	$ 165.52	$ 142.56	$ 110.08	$ 165.52	$ 73.56	$ 165.52	$ 165.52	$ 42.14
6	Power Factor	WP-B-p. 79	0.1072	0.05	0.1072	0.1072	0.1072	0.1072	0.1072	0.1072	0.05
7	Installed Power Investment	L5*L6	$ 17.74	$ 8.28	$ 15.28	$ 11.80	$ 17.74	$ 7.89	$ 17.74	$ 17.74	$ 2.11
8	Per Line Right To Use Fees	WP-B-p. 92	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18
9	Total Installed Switching Investment	L5+L7+L8	$ 185.44	$ 175.97	$ 160.02	$ 124.06	$ 185.44	$ 83.63	$ 185.44	$ 185.44	$ 46.42
10	Annual Switch Carrying Charge Factor	EXH-Part E	0.1982	0.1982	0.1982	0.1982	0.1982	0.1982	0.1805	0.1982	0.1805
11	Annual Switch Cost	L9 * L10	$ 36.75	$ 34.88	$ 31.72	$ 24.59	$ 36.75	$ 16.58	$ 33.47	$ 36.75	$ 8.38
12	Buildings Factor	EXH-Part E	0.1835	0.1835	0.1835	0.1835	0.1461	0.1835	0.1835	0.1835	0.1461
13	Buildings Investment	L9 * L12	$ 34.03	$ 32.29	$ 29.36	$ 22.76	$ 27.09	$ 15.35	$ 34.03	$ 34.03	$ 6.78
14	Annual Buildings Carrying Charge Factor	EXH-Part E	0.2236	0.2236	0.2236	0.2236	0.2236	0.2236	0.1852	0.2236	0.1852
15	Annual Buildings Cost	L13 * L14	$ 7.61	$ 7.22	$ 6.57	$ 5.09	$ 6.06	$ 3.43	$ 6.30	$ 7.61	$ 1.26
16	Monthly TELRIC Cost	(L11 + L15)/12	$ 3.70	$ 3.51	$ 3.19	$ 2.47	$ 3.57	$ 1.67	$ 3.31	$ 3.70	$ 0.80
17	Common Factor	EXH-Part E	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085
18	Monthly Common Cost	[(L9 + L13) * L17]/1	$ 0.16	$ 0.15	$ 0.13	$ 0.10	$ 0.15	$ 0.07	$ 0.16	$ 0.16	$ 0.04
19	Directly Attributable Joint Factor	EXH-Part E	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
20	Monthly Directly Attributable Joint Cost	[(L9 + L13) * L19] /12	$ 1.15	$ 1.09	$ 0.99	$ 0.77	$ 1.12	$ 0.52	$ 1.15	$ 1.15	$ 0.28
	Total TELRIC Cost	L16 + L18 + L20	$ 5.00	$ 4.75	$ 4.32	$ 3.35	$ 4.83	$ 2.26	$ 4.62	$ 5.00	$ 1.12
	% Reduction			5.11%	13.71%	33.10%	3.41%	54.90%	7.64%	0.00%	77.62%

Variable Local Switch Usage - Urban
TELRIC

Line #	Item A	Source B	As-Filed Value C	FCC Power Factor	FCC Utilization Factor (1)	HAI Installation Multiplier (2)	HAI Building Factor	Switch Discount Factor (.6 vs. .9)	Adjusted Cost of Capital	BH Conversion Fix	All
1	Traffic Sensitive Switch Material Investment	WP-B-p. 93	$ 132,831,179.00	$ 132,831,179.00	$ 132,831,179.00	$ 132,831,179.00	$ 132,831,179.00	$ 59,036,079.56	$ 132,831,179.00	$ 132,831,179.00	$ 59,036,079.56
2	Busy Hour Traffic in MOU	WP-B-p. 96	7,510,297	7,510,297	7,510,297	7,510,297	7,510,297	7,510,297	7,510,297	7,510,297	7,510,297
3	Material Investment Per BH MOU	L1/L2	$ 17.69	$ 17.69	$ 17.69	$ 17.69	$ 17.69	$ 7.86	$ 17.69	$ 17.69	$ 7.86
4	Installation Factor	wp-B-p. 79	1.6541	1.6541	1.6541	1.1	1.6541	1.6541	1.6541	1.6541	1.1
5	In Place Switch Investment	L3 * L4	$ 29.26	$ 29.26	$ 29.26	$ 19.46	$ 29.26	$ 13.00	$ 29.26	$ 29.26	$ 8.65
6	Power Factor	WP-B-p. 79	0.1072	0.05	0.1072	0.1072	0.1072	0.1072	0.1072	0.1072	0.05
7	In Place Power Investment	L5 * L6	$ 3.14	$ 1.46	$ 3.14	$ 2.09	$ 3.14	$ 1.39	$ 3.14	$ 3.14	$ 0.43
8	Right to Use Fees	WP-B-P. 92	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9	Per MOU Right to Use Fees	L8/L2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	Total In Place Switching Investment per BH MOU	L5 + L7 + L9	$ 32.39	$ 30.72	$ 32.39	$ 21.54	$ 32.39	$ 14.40	$ 32.39	$ 32.39	$ 9.08
11	Annual Switch Carrying Charge Factor	EXH-Part E	0.1982	0.1982	0.1982	0.1982	0.1982	0.1982	0.1805	0.1982	0.1805
12	Annual Switch Cost per BH MOU	L10 * L11	$ 6.42	$ 6.09	$ 6.42	$ 4.27	$ 6.42	$ 2.85	$ 5.85	$ 6.42	$ 1.64
13	Buildings Factor	EXH-Part E	0.1835	0.1835	0.1835	0.1835	0.1461	0.1835	0.1835	0.1835	0.1461
14	Buildings Investment per BH MOU	L10 * L13	$ 5.94	$ 5.64	$ 5.94	$ 3.95	$ 4.73	$ 2.64	$ 5.94	$ 5.94	$ 1.33
15	Annual Buildings Carrying Charge Factor	EXH-Part E	0.2236	0.2236	0.2236	0.2236	0.2236	0.2236	0.1852	0.2236	0.1852
16	Annual Buildings Cost per BH MOU	L14 * L 15	$ 1.33	$ 1.26	$ 1.33	$ 0.88	$ 1.06	$ 0.59	$ 1.10	$ 1.33	$ 0.25
17	Annual TELRIC Cost per BH MOU	L12 + L16	$ 7.75	$ 7.35	$ 7.75	$ 5.15	$ 7.48	$ 3.44	$ 6.95	$ 7.75	$ 1.88
18	Common Factor	EXH-Part E	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085
19	Annual Common Cost per BH MOU	(L10 + L14)* L18	$ 0.33	$ 0.31	$ 0.33	$ 0.22	$ 0.32	$ 0.14	$ 0.33	$ 0.33	$ 0.09
20	Directly Attributable Joint Factor	EXH-Part E	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
21	Annual Directly Attributable Joint Cost per BH MOU	(L10 + L14)* L20	$ 2.42	$ 2.29	$ 2.42	$ 1.61	$ 2.34	$ 1.07	$ 2.42	$ 2.42	$ 0.66
22	BH to All Hours of the Day (AHD) Conversion Factor	WP-B-p. 81	2457.00	2457.00	2457.00	2457.00	2457.00	2457.00	2457.00	3042.00	3042.00
23	Variable TELRIC Cost per MOU (AHD)	L17/L22	$ 0.00315	$ 0.00299	$ 0.00315	$ 0.00210	$ 0.00304	$ 0.00140	$ 0.00283	$ 0.00255	$ 0.00062
24	Variable Common Cost per MOU (AHD)	L19/L22	$ 0.00013	$ 0.00013	$ 0.00013	$ 0.00009	$ 0.00013	$ 0.00008	$ 0.00013	$ 0.00011	$ 0.00003
25	Variable Directly Attributable Joint Cost per MOU (AHD)	L21/L22	$ 0.00098	$ 0.00093	$ 0.00098	$ 0.00065	$ 0.00095	$ 0.00044	$ 0.00098	$ 0.00079	$ 0.00022
26	Total TELRIC Cost		$ 0.00427	$ 0.00405	$ 0.00427	$ 0.00284	$ 0.00412	$ 0.00190	$ 0.00394	$ 0.00345	$ 0.00086
	% Reduction			5.17%	0.00%	33.50%	3.41%	55.56%	7.64%	19.23%	79.76%

Fixed Local Switch Usage - Urban
TELRIC

Line #	Item A	Source B	As-Filed Value C	FCC Power Factor	FCC Utilization Factor (1)	HAI Installation Multiplier (2)	HAI Building Factor	Switch Discount Factor (.6 vs. .9)	Adjusted Cost of Capital	BH Conversion Fix	All
1	Traffic Sensitive Switch Material Investment	WP-B-p. 93	$ 40,218,681.00	$ 40,218,681.00	$ 40,218,681.00	$ 40,218,681.00	$ 40,218,681.00	$ 17,874,969.33	$ 40,218,681.00	$ 40,218,681.00	$ 17,874,969.33
2	Busy Hour Traffic in MOU	WP-B-p. 96	7,510,297	7,510,297	7,510,297	7,510,297	7,510,297	7,510,297	7,510,297	7,510,297	7,510,297
3	Material Investment Per BH MOU	L1/L2	$ 5.36	$ 5.36	$ 5.36	$ 5.36	$ 5.36	$ 2.38	$ 5.36	$ 5.36	$ 2.38
4	Installation Factor	wp-B-p. 79	1.6541	1.6541	1.6541	1.1	1.6541	1.6541	1.6541	1.6541	1.1
5	In Place Switch Investment	L3 * L4	$ 8.86	$ 8.86	$ 8.86	$ 5.89	$ 8.86	$ 3.94	$ 8.86	$ 8.86	$ 2.62
6	Power Factor	WP-B-p. 79	0.1072	0.05	0.1072	0.1072	0.1072	0.1072	0.1072	0.1072	0.05
7	In Place Power Investment	L5 * L6	$ 0.95	$ 0.44	$ 0.95	$ 0.63	$ 0.95	$ 0.42	$ 0.95	$ 0.95	$ 0.13
8	Right to Use Fees	WP-B-P. 92	$ 63,448,630	$ 63,448,630	$ 63,448,630	$ 63,448,630	$ 63,448,630	$ 63,448,630	$ 63,448,630	$ 63,448,630	$ 63,448,630
9	Per MOU Right to Use Fees	L8/L2	$ 8.45	$ 8.45	$ 8.45	$ 8.45	$ 8.45	$ 8.45	$ 8.45	$ 8.45	$ 8.45
10	Total In Place Switching Investment per BH MOU	L5 + L7 + L9	$ 18.26	$ 17.75	$ 18.26	$ 14.97	$ 18.26	$ 12.81	$ 18.26	$ 18.26	$ 11.20
11	Annual Switch Carrying Charge Factor	EXH-Part E	0.1982	0.1982	0.1982	0.1982	0.1982	0.1982	0.1805	0.1982	0.1805
12	Annual Switch Cost per BH MOU	L10 * L11	$ 3.62	$ 3.52	$ 3.62	$ 2.97	$ 3.62	$ 2.54	$ 3.30	$ 3.62	$ 2.02
13	Buildings Factor	EXH-Part E	0.1835	0.1835	0.1835	0.1835	0.1461	0.1835	0.1835	0.1835	0.1461
14	Buildings Investment per BH MOU	L10 * L13	$ 3.35	$ 3.26	$ 3.35	$ 2.75	$ 2.67	$ 2.35	$ 3.35	$ 3.35	$ 1.64
15	Annual Buildings Carrying Charge Factor	EXH-Part E	0.2236	0.2236	0.2236	0.2236	0.2236	0.2236	0.1852	0.2236	0.1852
16	Annual Buildings Cost per BH MOU	L14 * L 15	$ 0.75	$ 0.73	$ 0.75	$ 0.61	$ 0.60	$ 0.53	$ 0.62	$ 0.75	$ 0.30
17	Annual TELRIC Cost per BH MOU	L12 + L16	$ 4.37	$ 4.25	$ 4.37	$ 3.58	$ 4.21	$ 3.06	$ 3.92	$ 4.37	$ 2.32
18	Common Factor	EXH-Part E	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085
19	Annual Common Cost per BH MOU	(L10 + L14)* L18	$ 0.18	$ 0.18	$ 0.18	$ 0.15	$ 0.18	$ 0.13	$ 0.18	$ 0.18	$ 0.11
20	Directly Attributable Joint Factor	EXH-Part E	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
21	Annual Directly Attributable Joint Cost per BH MOU	(L10 + L14)* L20	$ 1.36	$ 1.32	$ 1.36	$ 1.12	$ 1.32	$ 0.95	$ 1.36	$ 1.36	$ 0.81
22	BH to All Hours of the Day (AHD) Conversion Factor	WP-B-p. 81	2457.00	2457.00	2457.00	2457.00	2457.00	2457.00	2457.00	3042.00	3042.00
23	Fixed TELRIC Cost per MOU (AHD)	L17/L22	$ 0.00178	$ 0.00173	$ 0.00178	$ 0.00146	$ 0.00172	$ 0.00125	$ 0.00159	$ 0.00144	$ 0.00076
24	Fixed Common Cost per MOU (AHD)	L19/L22	$ 0.00007	$ 0.00007	$ 0.00007	$ 0.00006	$ 0.00007	$ 0.00005	$ 0.00007	$ 0.00006	$ 0.00004
25	Fixed Directly Attributable Joint Cost per MOU (AHD)	L21/L22	$ 0.00055	$ 0.00054	$ 0.00055	$ 0.00045	$ 0.00054	$ 0.00039	$ 0.00055	$ 0.00045	$ 0.00027
	Total TELRIC Cost		$ 0.00241	$ 0.00234	$ 0.00241	$ 0.00197	$ 0.00232	$ 0.00169	$ 0.00222	$ 0.00194	$ 0.00107
	% Reduction			2.78%	0.00%	18.00%	3.41%	29.85%	7.64%	19.23%	55.71%

Total Local Switch Usage - Urban
TELRIC

Line #	Item A	Source B	As-Filed Value C	FCC Power Factor	FCC Utilization Factor (1)	HAI Installation Multiplier (2)	HAI Building Factor	Switch Discount Factor (.6 vs. .9)	Adjusted Cost of Capital	BH Conversion Fix	All
1	Variable TELRIC Cost per MOU (AHD)	WP-B-p. 10	$ 0.003154	$ 0.002991	$ 0.00315	$ 0.00210	$ 0.00304	$ 0.00140	$ 0.00283	$ 0.00255	$ 0.00062
2	AHD to Peak Period Conversion Factor	WP-B-p. 80	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
3	AHD to Off-Peak Period Conversion Factor	WP-B-p.80	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
4	Variable TELRIC Cost per Peak Period MOU	L1 * L2	$ 0.003690	$ 0.003499	$ 0.003690	$ 0.002454	$ 0.003561	$ 0.001640	$ 0.003308	$ 0.002980	$ 0.000775
5	Variable TELRIC Cost per Off-Peak Period MOU	L1 * L3	$ 0.000820	$ 0.000778	$ 0.000820	$ 0.000545	$ 0.000791	$ 0.000364	$ 0.000735	$ 0.000662	$ 0.000161
6	Fixed TELRIC Cost per MOU	WP-B-p. 9	$ 0.001778	$ 0.001728	$ 0.001778	$ 0.001458	$ 0.001715	$ 0.001247	$ 0.001594	$ 0.001436	$ 0.000764
7	Total TELRIC Cost per Peak Period MOU	L4 + L6	$ 0.005468	$ 0.005228	$ 0.005468	$ 0.003912	$ 0.005276	$ 0.002887	$ 0.004902	$ 0.004416	$ 0.001489
8	Total TELRIC Cost per Off-Peak Period MOU	L5 + L6	$ 0.002598	$ 0.002506	$ 0.002598	$ 0.002003	$ 0.002507	$ 0.001611	$ 0.002329	$ 0.002098	$ 0.000925
9	Variable Common Cost per MOU (AHD)	WP-B-p. 10	$ 0.000133	$ 0.000126	$ 0.000133	$ 0.000088	$ 0.000128	$ 0.000059	$ 0.000133	$ 0.000107	$ 0.000029
10	AHD to Peak Period Conversion Factor	WP-B-p. 80	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
11	AHD to Off-Peak Period Conversion Factor	WP-B-p.80	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
12	Variable Common Cost per Peak Period MOU	L9 * L10	$ 0.000155	$ 0.000147	$ 0.000155	$ 0.000103	$ 0.000150	$ 0.000069	$ 0.000155	$ 0.000125	$ 0.000034
13	Variable Common Cost per Off-Peak Period MOU	L9 * L 11	$ 0.000034	$ 0.000033	$ 0.000034	$ 0.000023	$ 0.000033	$ 0.000015	$ 0.000034	$ 0.000028	$ 0.000008
14	Fixed Common Cost per MOU	WP-B-p. 9	$ 0.000075	$ 0.000073	$ 0.000075	$ 0.000061	$ 0.000072	$ 0.000052	$ 0.000075	$ 0.000060	$ 0.000036
15	Total Common cost per Peak MOU	L12 + L14	$ 0.000230	$ 0.000220	$ 0.000230	$ 0.000164	$ 0.000223	$ 0.000121	$ 0.000230	$ 0.000186	$ 0.000070
16	Total Common cost per Off-Peak MOU	L13 + L14	$ 0.000109	$ 0.000105	$ 0.000109	$ 0.000084	$ 0.000106	$ 0.000068	$ 0.000109	$ 0.000088	$ 0.000043
17	Variable Directly Attributable Joint cost per MOU (AHD)	WP-B-p. 10	$ 0.00098	$ 0.00093	$ 0.00098	$ 0.00065	$ 0.00095	$ 0.00044	$ 0.00098	$ 0.00079	$ 0.00022
18	AHD to Peak Period Conversion Factor	WP-B-p. 80	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
19	AHD to Off-Peak Period Conversion Factor	WP-B-p.80	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
20	Variable Directly Attributable Joint cost per Peak Period MOU	L17 * L18	$ 0.001150	$ 0.001091	$ 0.001150	$ 0.000765	$ 0.001114	$ 0.000511	$ 0.001150	$ 0.000929	$ 0.000252
21	Variable Directly Attributable Joint cost per Off-Peak Period MOU	L17 * L19	$ 0.000256	$ 0.000242	$ 0.000256	$ 0.000170	$ 0.000247	$ 0.000114	$ 0.000256	$ 0.000206	$ 0.000058
22	Fixed Directly Attributable Joint Cost per MOU	WP-B-p. 9	$ 0.000554	$ 0.000539	$ 0.000554	$ 0.000454	$ 0.000536	$ 0.000389	$ 0.000554	$ 0.000447	$ 0.000268
23	Total Directly Attributable Joint Cost per Peak Period MOU	L20 + L22	$ 0.001704	$ 0.001629	$ 0.001704	$ 0.001219	$ 0.001650	$ 0.000900	$ 0.001704	$ 0.001376	$ 0.000518
24	Total Directly Attributable Joint Cost per Off-Peak Period MOU	L21 + L22	$ 0.000810	$ 0.000781	$ 0.000810	$ 0.000624	$ 0.000784	$ 0.000502	$ 0.000810	$ 0.000654	$ 0.000322
	Total Peak Period per MOU		$ 0.007401	$ 0.007077	$ 0.007401	$ 0.005295	$ 0.007149	$ 0.003908	$ 0.006836	$ 0.005978	$ 0.002077
	Total Off-Peak per MOU		$ 0.003516	$ 0.003392	$ 0.003516	$ 0.002711	$ 0.003396	$ 0.002181	$ 0.003248	$ 0.002840	$ 0.001290
	% Reduction			3.53%	0.00%	22.89%	3.41%	37.96%	7.64%	19.23%	63.31%

Analog Port - Suburban
TELRIC

Line #	Item A	Source B	As-Filed Value C	FCC Power Factor	FCC Utilization Factor	HAI Installation Multiplier	HAI Building Factor	Switch Discount Factor (.6 vs. .9)	Adjusted Cost of Capital	BH Conversion Fix	All
1	Switch Material Investment		$ 67.19	$ 67.19	$ 67.19	$ 67.19	$ 67.19	$ 29.86	$ 67.19	$ 67.19	$ 29.86
2	Utilization Adjustment Factor		0.8526	0.8526	0.9899	0.8526	0.8526	0.8526	0.8526	0.8526	0.9899
3	Adjusted Switch Material Investment	L1/L2	$ 78.81	$ 78.81	$ 67.88	$ 78.81	$ 78.81	$ 35.02	$ 78.81	$ 78.81	$ 30.17
4	Installation Factor	WP-B-p. 79	1.654	1.654	1.654	1.1	1.654	1.654	1.654	1.654	1.1
5	Installed Switch Investment	L3*L4	$ 130.35	$ 130.35	$ 112.27	$ 86.69	$ 130.35	$ 57.93	$ 130.35	$ 130.35	$ 33.18
6	Power Factor	WP-B-p. 79	0.1072	0.05	0.1072	0.1072	0.1072	0.1072	0.1072	0.1072	0.05
7	Installed Power Investment	L5*L6	$ 13.97	$ 6.52	$ 12.03	$ 9.29	$ 13.97	$ 6.21	$ 13.97	$ 13.97	$ 1.66
8	Per Line Right To Use Fees	WP-B-p. 92	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18	$ 2.18
9	Total Installed Switching Investment	L5+L7+L8	$ 146.50	$ 139.04	$ 126.48	$ 98.16	$ 146.50	$ 66.32	$ 146.50	$ 146.50	$ 37.02
10	Annual Switch Carrying Charge Factor	EXH-Part E	0.1982	0.1982	0.1982	0.1982	0.1982	0.1805	0.1982	0.1982	0.1805
11	Annual Switch Cost	L9 * L10	$ 29.04	$ 27.56	$ 25.07	$ 19.46	$ 29.04	$ 13.14	$ 26.44	$ 29.04	$ 6.68
12	Buildings Factor	EXH-Part E	0.1835	0.1835	0.1835	0.1835	0.1461	0.1835	0.1835	0.1835	0.1461
13	Buildings Investment	L9 * L12	$ 26.88	$ 25.51	$ 23.21	$ 18.01	$ 21.40	$ 12.17	$ 26.88	$ 26.88	$ 5.41
14	Annual Buildings Carrying Charge Factor	EXH-Part E	0.2236	0.2236	0.2236	0.2236	0.2236	0.2236	0.1852	0.2236	0.1852
15	Annual Buildings Cost	L13 * L14	$ 6.01	$ 5.70	$ 5.19	$ 4.03	$ 4.79	$ 2.72	$ 4.98	$ 6.01	$ 1.00
16	Monthly TELRIC Cost	(L11 + L15)/12	$ 2.92	$ 2.77	$ 2.52	$ 1.96	$ 2.82	$ 1.32	$ 2.62	$ 2.92	$ 0.64
17	Common Factor	EXH-Part E	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085
18	Monthly Common Cost	[(L9 + L13) * L17]/1	$ 0.12	$ 0.12	$ 0.11	$ 0.08	$ 0.12	$ 0.06	$ 0.12	$ 0.12	$ 0.03
19	Directly Attributable Joint Factor	EXH-Part E	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
20	Monthly Directly Attributable Joint Cost	[(L9 + L13) * L19] /12	$ 0.91	$ 0.86	$ 0.79	$ 0.61	$ 0.88	$ 0.41	$ 0.91	$ 0.91	$ 0.22
	Total TELRIC Cost	L16 + L18 + L20	$ 3.95	$ 3.75	$ 3.41	$ 2.65	$ 3.82	$ 1.79	$ 3.65	$ 3.95	$ 0.89
	% Reduction			5.09%	13.66%	33.00%	3.41%	54.73%	7.64%	0.00%	77.41%

Variable Local Switch Usage - Suburban
TELRIC

Line #	Item A	Source B	As-Filed Value C	FCC Power Factor	FCC Utilization Factor (1)	HAI Installation Multiplier (2)	HAI Building Factor	Switch Discount Factor (.6 vs. .9)	Adjusted Cost of Capital	BH Conversion Fix	All
1	Traffic Sensitive Switch Material Investment	WP-B-p. 93	$ 276,030,403.01	$ 276,030,403.01	$ 276,030,403.01	$ 276,030,403.01	$ 276,030,403.01	$ 122,680,179.12	$ 276,030,403.01	$ 276,030,403.01	$ 122,680,179.12
2	Busy Hour Traffic in MOU	WP-B-p. 96	14,211,281	14,211,281	14,211,281	14,211,281	14,211,281	14,211,281	14,211,281	14,211,281	14,211,281
3	Material Investment Per BH MOU	L1/L2	$ 19.42	$ 19.42	$ 19.42	$ 19.42	$ 19.42	$ 8.63	$ 19.42	$ 19.42	$ 8.63
4	Installation Factor	wp-B-p. 79	1.6541	1.6541	1.6541	1.1	1.6541	1.6541	1.6541	1.6541	1.1
5	In Place Switch Investment	L3 * L4	$ 32.13	$ 32.13	$ 32.13	$ 21.37	$ 32.13	$ 14.28	$ 32.13	$ 32.13	$ 9.50
6	Power Factor	WP-B-p. 79	0.1072	0.05	0.1072	0.1072	0.1072	0.1072	0.1072	0.1072	0.05
7	In Place Power Investment	L5 * L6	$ 3.44	$ 1.61	$ 3.44	$ 2.29	$ 3.44	$ 1.53	$ 3.44	$ 3.44	$ 0.47
8	Right to Use Fees	WP-B-P. 92	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9	Per MOU Right to Use Fees	L8/L2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	Total In Place Switching Investment per BH MOU	L5 + L7 + L9	$ 35.57	$ 33.73	$ 35.57	$ 23.66	$ 35.57	$ 15.81	$ 35.57	$ 35.57	$ 9.97
11	Annual Switch Carrying Charge Factor	EXH-Part E	0.1982	0.1982	0.1982	0.1982	0.1982	0.1982	0.1805	0.1982	0.1805
12	Annual Switch Cost per BH MOU	L10 * L11	$ 7.05	$ 6.69	$ 7.05	$ 4.69	$ 7.05	$ 3.13	$ 6.42	$ 7.05	$ 1.80
13	Buildings Factor	EXH-Part E	0.1835	0.1835	0.1835	0.1835	0.1461	0.1835	0.1835	0.1835	0.1461
14	Buildings Investment per BH MOU	L10 * L13	$ 6.53	$ 6.19	$ 6.53	$ 4.34	$ 5.20	$ 2.90	$ 6.53	$ 6.53	$ 1.46
15	Annual Buildings Carrying Charge Factor	EXH-Part E	0.2236	0.2236	0.2236	0.2236	0.2236	0.2236	0.1852	0.2236	0.1852
16	Annual Buildings Cost per BH MOU	L14 * L 15	$ 1.46	$ 1.38	$ 1.46	$ 0.97	$ 1.16	$ 0.65	$ 1.21	$ 1.46	$ 0.27
17	Annual TELRIC Cost per BH MOU	L12 + L16	$ 8.51	$ 8.07	$ 8.51	$ 5.66	$ 8.21	$ 3.78	$ 7.63	$ 8.51	$ 2.07
18	Common Factor	EXH-Part E	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085
19	Annual Common Cost per BH MOU	(L10 + L14)* L18	$ 0.36	$ 0.34	$ 0.36	$ 0.24	$ 0.35	$ 0.16	$ 0.36	$ 0.36	$ 0.10
20	Directly Attributable Joint Factor	EXH-Part E	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
21	Annual Directly Attributable Joint Cost per BH MOU	(L10 + L14)* L20	$ 2.65	$ 2.52	$ 2.65	$ 1.76	$ 2.57	$ 1.18	$ 2.65	$ 2.65	$ 0.72
22	BH to All Hours of the Day (AHD) Conversion Factor	WP-B-p. 81	2457.00	2457.00	2457.00	2457.00	2457.00	2457.00	2457.00	3042.00	3042.00
23	Variable TELRIC Cost per MOU (AHD)	L17/L22	$ 0.00346	$ 0.00328	$ 0.00346	$ 0.00230	$ 0.00334	$ 0.00154	$ 0.00311	$ 0.00280	$ 0.00068
24	Variable Common Cost per MOU (AHD)	L19/L22	$ 0.00015	$ 0.00014	$ 0.00015	$ 0.00010	$ 0.00014	$ 0.00006	$ 0.00015	$ 0.00012	$ 0.00003
25	Variable Directly Attributable Joint Cost per MOU (AHD)	L21/L22	$ 0.00108	$ 0.00102	$ 0.00108	$ 0.00072	$ 0.00105	$ 0.00048	$ 0.00108	$ 0.00087	$ 0.00024
26	Total TELRIC Cost		$ 0.00469	$ 0.00445	$ 0.00469	$ 0.00312	$ 0.00453	$ 0.00208	$ 0.00433	$ 0.00379	$ 0.00095
	% Reduction			5.17%	0.00%	33.50%	3.41%	55.56%	7.64%	19.23%	79.76%

Fixed Local Switch Usage - Suburban
TELRIC

Line #	Item A	Source B	As-Filed Value C	FCC Power Factor	FCC Utilization Factor (1)	HAI Installation Multiplier (2)	HAI Building Factor	Switch Discount Factor (6 vs. .9)	Adjusted Cost of Capital	BH Conversion Fix	All
1	Traffic Sensitive Switch Material Investment	WP-B-p. 93	$ 148,710,082.00	$ 148,710,082.00	$ 148,710,082.00	$ 148,710,082.00	$ 148,710,082.00	$ 66,093,369.78	$ 148,710,082.00	$ 148,710,082.00	$ 66,093,369.78
2	Busy Hour Traffic in MOU	WP-B-p. 96	14,211,281	14,211,281	14,211,281	14,211,281	14,211,281	14,211,281	14,211,281	14,211,281	14,211,281
3	Material Investment Per BH MOU	L1/L2	$ 10.46	$ 10.46	$ 10.46	$ 10.46	$ 10.46	$ 4.65	$ 10.46	$ 10.46	$ 4.65
4	Installation Factor	wp-B-p. 79	1.6541	1.6541	1.6541	1.1	1.6541	1.6541	1.6541	1.6541	1.1
5	In Place Switch Investment	L3 * L4	$ 17.31	$ 17.31	$ 17.31	$ 11.51	$ 17.31	$ 7.69	$ 17.31	$ 17.31	$ 5.12
6	Power Factor	WP-B-p. 79	0.1072	0.05	0.1072	0.1072	0.1072	0.1072	0.1072	0.1072	0.05
7	In Place Power Investment	L5 * L6	$ 1.86	$ 0.87	$ 1.86	$ 1.23	$ 1.86	$ 0.82	$ 1.86	$ 1.86	$ 0.26
8	Right to Use Fees	WP-B-P. 92	$ 165,737,636	$ 165,737,636	$ 165,737,636	$ 165,737,636	$ 165,737,636	$ 165,737,636	$ 165,737,636	$ 165,737,636	$ 165,737,636
9	Per MOU Right to Use Fees	L8/L2	$ 11.66	$ 11.66	$ 11.66	$ 11.66	$ 11.66	$ 11.66	$ 11.66	$ 11.66	$ 11.66
10	Total In Place Switching Investment per BH MOU	L5 + L7 + L9	$ 30.83	$ 29.84	$ 30.83	$ 24.41	$ 30.83	$ 20.18	$ 30.83	$ 30.83	$ 17.03
11	Annual Switch Carrying Charge Factor	EXH-Part E	0.1982	0.1982	0.1982	0.1982	0.1982	0.1982	0.1805	0.1982	0.1805
12	Annual Switch Cost per BH MOU	L10 * L11	$ 6.11	$ 5.91	$ 6.11	$ 4.84	$ 6.11	$ 4.00	$ 5.56	$ 6.11	$ 3.07
13	Buildings Factor	EXH-Part E	0.1835	0.1835	0.1835	0.1835	0.1461	0.1835	0.1835	0.1835	0.1461
14	Buildings Investment per BH MOU	L10 * L13	$ 5.66	$ 5.48	$ 5.66	$ 4.48	$ 4.50	$ 3.70	$ 5.66	$ 5.66	$ 2.49
15	Annual Buildings Carrying Charge Factor	EXH-Part E	0.2236	0.2236	0.2236	0.2236	0.2236	0.2236	0.1852	0.2236	0.1852
16	Annual Buildings Cost per BH MOU	L14 * L 15	$ 1.26	$ 1.22	$ 1.26	$ 1.00	$ 1.01	$ 0.83	$ 1.05	$ 1.26	$ 0.46
17	Annual TELRIC Cost per BH MOU	L12 + L16	$ 7.37	$ 7.14	$ 7.37	$ 5.84	$ 7.12	$ 4.83	$ 6.61	$ 7.37	$ 3.54
18	Common Factor	EXH-Part E	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085
19	Annual Common Cost per BH MOU	(L10 + L14)* L18	$ 0.31	$ 0.30	$ 0.31	$ 0.25	$ 0.30	$ 0.20	$ 0.31	$ 0.31	$ 0.17
20	Directly Attributable Joint Factor	EXH-Part E	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
21	Annual Directly Attributable Joint Cost per BH MOU	(L10 + L14)* L20	$ 2.30	$ 2.22	$ 2.30	$ 1.82	$ 2.23	$ 1.50	$ 2.30	$ 2.30	$ 1.23
22	BH to All Hours of the Day (AHD) Conversion Factor	WP-B-p. 81	2457.00	2457.00	2457.00	2457.00	2457.00	2457.00	2457.00	3042.00	3042.00
23	Fixed TELRIC Cost per MOU (AHD)	L17/L22	$ 0.00300	$ 0.00291	$ 0.00300	$ 0.00238	$ 0.00290	$ 0.00196	$ 0.00269	$ 0.00242	$ 0.00116
24	Fixed Common Cost per MOU (AHD)	L19/L22	$ 0.00013	$ 0.00012	$ 0.00013	$ 0.00010	$ 0.00012	$ 0.00008	$ 0.00013	$ 0.00010	$ 0.00005
25	Fixed Directly Attributable Joint Cost per MOU (AHD)	L21/L22	$ 0.00094	$ 0.00091	$ 0.00094	$ 0.00074	$ 0.00091	$ 0.00061	$ 0.00094	$ 0.00076	$ 0.00040
	Total TELRIC Cost		$ 0.00406	$ 0.00393	$ 0.00406	$ 0.00322	$ 0.00392	$ 0.00266	$ 0.00375	$ 0.00328	$ 0.00162
	% Reduction			3.21%	0.00%	20.83%	3.41%	34.54%	7.64%	19.23%	60.10%

Total Local Switch Usage - Suburban
TELRIC

Line #	Item A	Source B	As-Filed Value C	FCC Power Factor	FCC Utilization Factor (1)	HAI Installation Multiplier (2)	HAI Building Factor	Switch Discount Factor (6 vs. .9)	Adjusted Cost of Capital	BH Conversion Fix	All
1	Variable TELRIC Cost per MOU (AHD)	WP-B-p. 10	$ 0.003464	$ 0.003285	$ 0.00346	$ 0.00230	$ 0.00334	$ 0.00154	$ 0.00311	$ 0.00280	$ 0.00068
2	AHD to Peak Period Conversion Factor	WP-B-p. 80	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
3	AHD to Off-Peak Period Conversion Factor	WP-B-p.80	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
4	Variable TELRIC Cost per Peak Period MOU	L1 * L2	$ 0.004052	$ 0.003843	$ 0.004052	$ 0.002695	$ 0.003911	$ 0.001801	$ 0.003833	$ 0.003273	$ 0.000796
5	Variable TELRIC Cost per Off-Peak Period MOU	L1 * L3	$ 0.000901	$ 0.000854	$ 0.000901	$ 0.000599	$ 0.000869	$ 0.000400	$ 0.000807	$ 0.000727	$ 0.000177
6	Fixed TELRIC Cost per MOU	WP-B-p. 9	$ 0.003002	$ 0.002905	$ 0.003002	$ 0.002376	$ 0.002897	$ 0.001965	$ 0.002691	$ 0.002424	$ 0.001162
7	Total TELRIC Cost per Peak Period MOU	L4 + L6	$ 0.007054	$ 0.006748	$ 0.007054	$ 0.005071	$ 0.006807	$ 0.003766	$ 0.006324	$ 0.005697	$ 0.001958
8	Total TELRIC Cost per Off-Peak Period MOU	L5 + L6	$ 0.003902	$ 0.003759	$ 0.003902	$ 0.002975	$ 0.003766	$ 0.002365	$ 0.003498	$ 0.003152	$ 0.001339
9	Variable Common Cost per MOU (AHD)	WP-B-p. 10	$ 0.000146	$ 0.000138	$ 0.000146	$ 0.000097	$ 0.000141	$ 0.000065	$ 0.000146	$ 0.000118	$ 0.000032
10	AHD to Peak Period Conversion Factor	WP-B-p. 80	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
11	AHD to Off-Peak Period Conversion Factor	WP-B-p.80	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
12	Variable Common Cost per Peak Period MOU	L9 * L10	$ 0.000170	$ 0.000162	$ 0.000170	$ 0.000113	$ 0.000165	$ 0.000076	$ 0.000170	$ 0.000138	$ 0.000037
13	Variable Common Cost per Off-Peak Period MOU	L9 * L 11	$ 0.000038	$ 0.000036	$ 0.000038	$ 0.000025	$ 0.000037	$ 0.000017	$ 0.000038	$ 0.000031	$ 0.000008
14	Fixed Common Cost per MOU	WP-B-p. 9	$ 0.000126	$ 0.000122	$ 0.000126	$ 0.000100	$ 0.000122	$ 0.000083	$ 0.000126	$ 0.000102	$ 0.000055
15	Total Common cost per Peak MOU	L12 + L14	$ 0.000297	$ 0.000284	$ 0.000297	$ 0.000213	$ 0.000287	$ 0.000158	$ 0.000297	$ 0.000240	$ 0.000092
16	Total Common cost per Off-Peak MOU	L13 + L14	$ 0.000164	$ 0.000158	$ 0.000164	$ 0.000125	$ 0.000159	$ 0.000099	$ 0.000164	$ 0.000133	$ 0.000063
17	Variable Directly Attributable Joint cost per MOU (AHD)	WP-B-p. 10	$ 0.00108	$ 0.00102	$ 0.00108	$ 0.00072	$ 0.00105	$ 0.00048	$ 0.00108	$ 0.00087	$ 0.00024
18	AHD to Peak Period Conversion Factor	WP-B-p. 80	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
19	AHD to Off-Peak Period Conversion Factor	WP-B-p.80	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
20	Variable Directly Attributable Joint cost per Peak Period MOU	L17 * L18	$ 0.001263	$ 0.001198	$ 0.001263	$ 0.000840	$ 0.001223	$ 0.000561	$ 0.001263	$ 0.001020	$ 0.000277
21	Variable Directly Attributable Joint cost per Off-Peak Period MOU	L17 * L19	$ 0.000281	$ 0.000266	$ 0.000281	$ 0.000187	$ 0.000272	$ 0.000125	$ 0.000281	$ 0.000227	$ 0.000062
22	Fixed Directly Attributable Joint Cost per MOU	WP-B-p. 9	$ 0.000935	$ 0.000905	$ 0.000935	$ 0.000741	$ 0.000906	$ 0.000612	$ 0.000935	$ 0.000756	$ 0.000404
23	Total Directly Attributable Joint Cost per Peak Period MOU	L20 + L22	$ 0.002198	$ 0.002103	$ 0.002198	$ 0.001581	$ 0.002129	$ 0.001174	$ 0.002198	$ 0.001776	$ 0.000681
24	Total Directly Attributable Joint Cost per Off-Peak Period MOU	L21 + L22	$ 0.001216	$ 0.001172	$ 0.001216	$ 0.000927	$ 0.001178	$ 0.000737	$ 0.001216	$ 0.000982	$ 0.000466
	Total Peak Period per MOU		$ 0.009549	$ 0.009135	$ 0.009549	$ 0.006865	$ 0.009224	$ 0.005098	$ 0.008819	$ 0.007713	$ 0.002731
	Total Off-Peak per MOU		$ 0.005282	$ 0.005089	$ 0.005282	$ 0.004028	$ 0.005102	$ 0.003202	$ 0.004879	$ 0.004266	$ 0.001868
	% Reduction			3.66%	0.00%	23.75%	3.41%	39.39%	7.64%	19.23%	64.64%

Trunk Port - per MOU Metro
TELRIC

Line #	Item A	Source B	As Filed Value C	FCC Power Factor	FCC Utilization Factor	HAI Installation Multiplier	HAI Building Factor	Switch Discount Factor (.6 vs. .9)	Adjusted Cost of Capital	BH Conversion Fix	All
1	Switch Material Investment		$ 240.14	$ 240.14	$ 240.14	$ 240.14	$ 240.14	$ 106.73	$ 240.14	$ 240.14	$ 106.73
2	Utilization Adjustment Factor		0.9474	0.9474	0.9474	0.9474	0.9474	0.9474	0.9474	0.9474	0.9474
3	Adjusted Switch Material Investment	L1/L2	$ 253.47	$ 253.47	$ 253.47	$ 253.47	$ 253.47	$ 112.65	$ 253.47	$ 253.47	$ 112.65
4	Busy Hour (BH) Traffic in Minutes of Use (MOU)	Engineering	$ 42.03	$ 42.03	$ 42.03	$ 42.03	$ 42.03	$ 42.03	$ 42.03	$ 42.03	$ 42.03
5	Material Investment per BH MOU	L3/L4	$ 6.03	$ 6.03	$ 6.03	$ 6.03	$ 6.03	$ 2.68	$ 6.03	$ 6.03	$ 2.68
6	Installation Factor	WP-B-p. 79	1.6541	1.6541	1.6541	1.1	1.654	1.654	1.6541	1.6541	1.1
7	In Place Switch Investment	L5*L6	$ 9.98	$ 9.98	$ 9.98	$ 6.63	$ 9.97	$ 4.43	$ 9.98	$ 9.98	$ 2.95
8	Power Factor	WP-B-p. 79	0.1072	0.05	0.1072	0.1072	0.1072	0.1072	0.1072	0.1072	0.05
9	Installed Power Investment	L7*L8	$ 1.07	$ 0.50	$ 1.07	$ 0.71	$ 1.07	$ 0.48	$ 1.07	$ 1.07	$ 0.15
10	Per MOU Right To Use Fees	WP-B-p. 92	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -
11	Total In Place Switching Investment per BH MOU	L7+L9+L10	$ 11.04	$ 10.47	$ 11.04	$ 7.34	$ 11.04	$ 4.91	$ 11.04	$ 11.04	$ 3.10
12	Annual Switch Carrying Charge Factor	EXH-Part E	0.1982	0.1982	0.1982	0.1982	0.1982	0.1982	0.1805	0.1982	0.1805
13	Annual Switch Cost per BH MOU	L11* L12	$ 2.19	$ 2.08	$ 2.19	$ 1.46	$ 2.19	$ 0.97	$ 1.99	$ 2.19	$ 0.56
14	Buildings Factor	EXH-Part E	0.1835	0.1835	0.1835	0.1835	0.1461	0.1835	0.1835	0.1835	0.1461
15	Buildings Investment per BH MOU	L11* L14	$ 2.03	$ 1.92	$ 2.03	$ 1.35	$ 1.61	$ 0.90	$ 2.03	$ 2.03	$ 0.45
16	Annual Buildings Carrying Charge Factor	EXH-Part E	0.2236	0.2236	0.2236	0.2236	0.2236	0.2236	0.1852	0.2236	0.1852
17	Annual Buildings Cost per BH MOU	L15* L16	$ 0.45	$ 0.43	$ 0.45	$ 0.30	$ 0.36	$ 0.20	$ 0.38	$ 0.45	$ 0.08
18	Annual TELRIC Cost per BH MOU	L13 + L17	$ 2.64	$ 2.51	$ 2.64	$ 1.76	$ 2.55	$ 1.17	$ 2.37	$ 2.64	$ 0.64
19	Common Factor	EXH-Part F	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085
20	Annual Common Cost per BH MOU	[(L11 + L15) * L19]	$ 0.1111	$ 0.1054	$ 0.1111	$ 0.0739	$ 0.1076	$ 0.0494	$ 0.1111	$ 0.1111	$ 0.0302
21	Directly Attributable Joint Factor	EXH-Part E	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.063
22	Annual Directly Attributable Joint Cost per BH MOU	[(L11 + L15) * L21	$ 0.8235	$ 0.7810	$ 0.8235	$ 0.5476	$ 0.7974	$ 0.3660	$ 0.8235	$ 0.8235	$ 0.2235
23	BH to All Hours of the Day (AHD) Conversion Factor	WP-B-p. 81	2,457.00	2,457.00	2,457.00	2,457.00	2,457.00	2,457.00	2,457.00	$ 3,042.00	$ 3,042.00
24	Fixed TELRIC Cost per MOU (AHD)	L18 / L23	$ 0.00108	$ 0.00102	$ 0.00108	$ 0.00072	$ 0.00104	$ 0.00048	$ 0.00096	$ 0.00087	$ 0.00021
25	Fixed Comon Cost per MOU (AHD)	L20 / L23	$ 0.000045	$ 0.000043	$ 0.000045	$ 0.000030	$ 0.000044	$ 0.000020	$ 0.000045	$ 0.000037	$ 0.000010
26	Fixed Directly Attributable Joint Cost per MOU (AHD)	L22 / L23	$ 0.00034	$ 0.00032	$ 0.00034	$ 0.00022	$ 0.00032	$ 0.00015	$ 0.00034	$ 0.00027	$ 0.00007
27	AHD to Peak Period Conversion Factor	WP-B-p. 80	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
28	AHD to Off-Peak Period Conversion Factor	WP-B-p. 80	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
29	TELRIC Cost per Peak MOU	L24 * L27	$ 0.001258	$ 0.001193	$ 0.001258	$ 0.000837	$ 0.001214	$ 0.000559	$ 0.001128	$ 0.001016	$ 0.000247
30	TELRIC Cost per Off-Peak MOU	L24 * L28	$ 0.000280	$ 0.000265	$ 0.000280	$ 0.000186	$ 0.000270	$ 0.000124	$ 0.000251	$ 0.000226	$ 0.000055
31	Common Cost per Peak MOU	L25 * L27	$ 0.000053	$ 0.000050	$ 0.000053	$ 0.000035	$ 0.000051	$ 0.000024	$ 0.000053	$ 0.000043	$ 0.000012
32	Common Cost per Off-Peak MOU	L25 * L28	$ 0.000012	$ 0.000011	$ 0.000012	$ 0.000008	$ 0.000011	$ 0.000005	$ 0.000012	$ 0.000009	$ 0.000003
33	Directly Attributable Joint Cost per Peak MOU	L26 * L27	$ 0.000392	$ 0.000372	$ 0.000392	$ 0.000261	$ 0.000380	$ 0.000174	$ 0.000392	$ 0.000317	$ 0.000086
34	Directly Attributable Joint Cost per Off-Peak MOU	L26 * L28	$ 0.000087	$ 0.000083	$ 0.000087	$ 0.000058	$ 0.000084	$ 0.000039	$ 0.000087	$ 0.000070	$ 0.000019
	Total Peak Cost	L29 + L31 + L33	$ 0.001703	$ 0.001615	$ 0.001703	$ 0.001133	$ 0.001645	$ 0.000757	$ 0.001573	$ 0.001376	$ 0.000345
	Total Off-Peak Cost	L30 + L32 + L34	$ 0.000379	$ 0.000359	$ 0.000379	$ 0.000252	$ 0.000366	$ 0.000168	$ 0.000350	$ 0.000306	$ 0.000077
	% Reduction - Peak			5.17%	0.00%	33.50%	3.42%	55.56%	7.64%	19.23%	79.76%
	% Reduction - Off-Peak			5.17%	0.00%	33.50%	3.42%	55.56%	7.64%	19.23%	79.76%