rulemaking with respect to small systems. Pending petitions for reconsideration of that order shall be addressed separately.

188. Third, the Cable Services Bureau recently issued a Public Notice soliciting comment on proposed Form 1235, an abbreviated cost of service form to be used to recover the cost of significant network upgrades.[417] In the *Cost Order,* the Commission delegated to the Bureau the authority to develop such a form and prescribed the conditions in which a cable operator could use the form.[418] In general, this approach permits operators to raise rates by reporting only the cost of a system upgrade, rather than all current costs. The recoverable amount of such capital improvements may be added to a system's benchmark rate, as adjusted by the price cap, to generate a maximum permitted rate.[419] Continental recommends that the Commission clarify that all operators are permitted to make streamlined cost of service showings to reflect major upgrade costs in rates, regardless of whether the initial permitted rate is established under the benchmark or cost of service principles.[420] In addition, Continental requests that the Commission allow cable operators to justify and implement rate increases to cover the cost of a system upgrade according to a reasonable schedule provided by the operator, and not force a delay until the entire upgrade is completed.[421] Other commenters contend that it would be simpler and more reasonable to permit upgrade costs as external pass-throughs, at least for those systems whose capped rates have been determined pursuant to a cost of service showing because these operators already have shown that the costs for the existing system justify more than the benchmark rate.[422] NATOA opposes proposals to treat upgrade costs as external costs.[423] NATOA states that treating upgrade costs as external costs would give cable operators an opportunity to undermine rate protections granted cable subscribers.[424] According to NATOA, permitting external cost treatment of upgrade costs would make a mockery of the Commission's

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[417] *Public Notice*, DA-1893 (September 19, 1995).

[418] *Cost Order*, 9 FCC Rcd at 4674-76.

[419] *Id.* at 4676.

[420] Continental Comments at 57-58.

[421] *Id.* at 58-62; *see* CATA Comments at 4.

[422] CATA Comments at 2; *see* Public Interest Petitioners Petition for Reconsideration at 13-14; Office of Communication of the United Church of Christ Reply Comments at 2-3.

[423] NATOA Opposition to Petitions for Reconsideration at 3-5.

[424] *Id.* at 4.

benchmark system because substantial rate increases would likely follow.[425] The Public Interest Petitioners respond that regulators would be in a position to ensure that unreasonable rates will not result because regulators can examine rate increases and only allow the pass-through of legitimate upgrade costs.[426] Time Warner recommends that the role of franchising authorities be limited to that of implementation.[427] As noted, the Cable Services Bureau, acting on delegated authority, has sought comment on a proposed form to be used by operators seeking to recover the cost of network upgrades. Since that form is currently subject to review by the Office of Management and Budget, and in the interests of administrative efficiency, we will resolve all outstanding issues concerning network upgrades and Form 1235 at a later time.

189. Fourth, in the *Report and Order and Further Notice of Proposed Rulemaking*, the Commission proposed the development of average cost schedules[428] for regulated cable services and equipment.[429] We stated that an "average schedule" regulatory scheme had been adopted for the provision of interstate access by some telephone companies, and suggested that a similar scheme may be appropriate for the purposes of cable rate regulation. The Commission tentatively concluded that average cost schedules should be established for the provision of regulated cable service and equipment.[430] The Commission has stated that an average cost schedule could "reduce administrative burdens by obviating the need for identification of individual system costs."[431] However, the Commission also noted that the feasibility of establishing such a schedule would depend on the "availability of sufficient representative cost data for the determination of average costs."[432] Accordingly, we have recently initiated a cost survey, and we will address the issue of the creation of average cost schedules following our analysis of the data we receive.

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[425] *Id.*

[426] Public Interest Petitioners' Reply at 5.

[427] Time Warner Comments at 34-35.

[428] These cost schedules would allow cable operators to justify rates based on the average costs reported by all systems, or categories of systems with similar characteristics, as opposed to justifying rates based on the costs associated with running one particular system.

[429] *Further Notice*, 9 FCC Rcd at 4691-93; *see also Cost Notice* at ¶ 74.

[430] *Cost Order*, 9 FCC Rcd at 4692.

[431] *Cost Notice* at ¶ 74.

[432] *Id.*

190. Finally, Media General seeks reconsideration of our interim cost rules to the extent they require an operator to offset operating expenses by an amount equal to the revenues earned for cable advertising operations.[433] Media General argues that expenses should be offset against revenues on a channel-by-channel basis, thereby limiting the amount of revenues allocated to a particular channel to the amount of the expenses allocable to that channel.[434] This would be consistent with two decisions of the Cable Services Bureau regarding revenue offsets in the context of external costs, according to Media General.[435] In addition, Media General asserts that the offset requirement should apply only to the BST, to ensure that operators have sufficient incentive to add channels to the CPST.[436] With respect to the amount of the offset, we first note that after Media General filed its petition for reconsideration, we eliminated the requirement that when adding a channel an operator must offset its permitted per channel mark up by the amount of revenues earned as a result of that addition.[437] We determined that requiring operators to offset the mark up with home shopping sales commissions created a disincentive for operators to add home shopping services.[438] However, there was and is good reason to distinguish between offsets in the context of channel additions and offsets in the context of overall rate justifications. When setting or justifying regulated rates initially, the goal of our cost of service rules is to allow an operator to earn a reasonable return on its investment, after covering the expenses associated with regulated services. Offsetting the aggregate expense of providing those regulated services by the aggregate amount of revenues associated with those services falls squarely within this approach. On the other hand, when adding a single channel, we have eliminated any revenue offset to the amount of the cost of adding that channel. By reducing or eliminating the operator mark-up when home shopping channels raise sales commissions for operators, the offset requirement effectively penalized the operator, and home shopping channels indirectly, by taking away the mark-up simply because many customers in the operator's territory purchase products from the home shopping service. As for limiting the scope of the offset requirement to revenues associated with the BST, we believe that the going forward rules, adopted in the *Sixth Order on Reconsideration* after the filing of Media General's petition, create the incentive to add channels advocated by Media General.

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[433] Media General Petition for Reconsideration at 9.

[434] *Id.* at 10.

[435] *Id.*, citing Letter from Chief, Cable Services Bureau to Home Shopping Network (May 6, 1994); Letter from Chief, Cable Services Bureau to QVC Network, Inc. (May 6, 1994).

[436] *Id.* at 10-11.

[437] Thirteenth Order on Reconsideration, MM Docket Nos. 92-266 & 93-215, FCC 95-343 (rel. Aug. 8, 1995).

[438] *Id.*

XVII. APPLICABILITY OF THE FINAL RULES GENERALLY

191. For pending cost of service cases, we will allow operators to choose between the interim rules and the final rules, except in cases where there has been a final rate decision made by the franchising authority before the effective date of the final rules. Although in the *Cost Order* we stated our intention to apply our interim rules to proceedings relating to rates during the period in which such rules were in effect,[439] upon further reflection we believe that giving operators a choice is warranted under these circumstances. Since the final rules reflect our refined view of where rates should fall within the zone of reasonableness, we believe it is fair to offer operators a choice. Moreover, we believe that, because both sets of rules result in reasonable rates, offering operators this choice will give them a degree of flexibility that may have a favorable impact on their infrastructure plans. In addition, we wish to minimize the possibility of imposing upon operators with two or more systems the burden of applying one set of rules to some systems and another set of rules to other systems, particularly given that in some instances our rules permit system rates to be based on data applicable to a higher level of operations, such as MSO-wide data.[440] However, we do not intend for cable operators with pending cases to make entirely new showings based on the new rules. Rather, we simply direct the Cable Services Bureau and local franchising authorities to follow the final cost rules in reviewing pending submissions to the extent possible, requiring the minimum additional information necessary to apply the new rules.

192. The notion of administrative finality suggests that we review cases already decided by a final decision of the franchising authority in accordance with the rules in effect when those decisions were made, i.e., the interim rules. Notwithstanding this conclusion, we note that most of our interim rules, including those governing treatment of start-up losses, intangible assets and rate of return, are presumptions which can be rebutted by an adequate showing by the operator. Those presumptions were derived from previous observations that we have now refined in the course of adopting final rules. Therefore, in any case decided by a local franchising authority according to the interim rules and then appealed to the Commission, the operator may seek to overcome one or more of the interim presumptions by citing the Commission's refined analysis of the particular issue, as set forth herein. In addition, in pending cases, operators that made cost showings in accordance with the interim rules and that would prefer to have their cases decided accordingly should be permitted to do so, rather than revisiting their filings to decide whether to make a supplemental showing in light of the revised final rules. Rather than creating uncertainty or

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[439] *Cost Order*, 9 FCC Rcd at 4532, n. 5.

[440] In view of the differences between the final and the interim rules, some operators with pending cases may be inclined to make supplemental filings, while some regulators may deem it appropriate to make requests for additional data. We expect such matters to be resolved on a case-by-case basis, in accordance with our standard procedures.

additional burdens for such operators, we believe it more reasonable simply to let them elect to have their showings decided in accordance with the interim rules.

193. In pending cases in which an operator must make an election (*i.e.*, any case in which a franchising authority has not issued a final decision), an operator must submit written notice of its election, either to the franchising authority or to the Commission, only if the operator chooses to have its cost of service showing decided in accordance with the interim rules. This notice should be submitted within 30 days of the effective date of this *Order*. An operator need not take any action if it elects to have the final rules applied to a pending rate proceeding, since the failure to submit a written notice shall be deemed an election to have the final rules applied to the case.

XVIII. FURTHER NOTICE OF PROPOSED RULEMAKING

A. Non-Unitary Rates of Return

194. Our experience with rate regulation of the cable industry and the record in this proceeding leads us to consider exploring an alternative to the presumptive unitary rate of return for cost of service filings by cable operators. We continue to recognize that a unitary rate applied to all cable operators making a cost of service filing simplifies administrative burdens. It may do so, however, at the cost of squeezing a wide variety of risk profiles into the same regulatory box. We tentatively conclude that risk variables among cable operators may be widespread enough to justify consideration of an alternative rate of return methodology tailored more closely to the financial circumstances of individual cable operators. At the same time, we continue to recognize that more individualized rates of return pose the risk of more detailed and potentially more burdensome capital cost determinations in cable rate cases. These burdens can impact operators as well as regulators. Accordingly, if we adopt a more tailored rate of return methodology, we will nonetheless retain the current presumptive rate, and its concomitant procedures for overcoming that presumption, as an alternative to any new methodology. By retaining the presumptive rate alternative, we allow operators the flexibility of keeping the cost of service proceeding as simple as possible.

195. An overview of cable industry capital costs indicates that the capital markets themselves recognize a significant measure of risk within the cable industry. Cable stocks trade at significant premiums relative to overall markets, and have high debt costs due to low investment grades. To some degree, this is a consequence of the substantial leverage that characterizes the cable industry generally. Nevertheless, it is a risk factor that the markets do not overlook. Furthermore, a fair proportion of homes passed by cable do not subscribe to the service, underscoring consumer and business perception of cable as a service that is not essential in a traditional utility sense. Against this backdrop, cable industry investors recognize a significant range of risk associated with the purchase of cable equity.

196. Under these circumstances, we believe it may be necessary to recognize the risk diversity within the cable industry. Recognition of such risk may require that we

evaluate the implicit capital cost assumptions that are used to establish the regulatory rate of return for cable operators. Moreover, given the differences in critical risk variables within the cable industry itself, we no longer presume that a single rate of return should be administered across the spectrum of cable operators making cost of service filings. These differences may become more pronounced as non-cable entities begin their entry into markets that would otherwise be served by traditional cable operators. If, for example, a large telephone company sought capital to build a cable system that would eventually compete against a highly leveraged incumbent operator, we question the reasonableness of presuming that the capital cost of the entering telephone company would mirror the capital cost of the incumbent operator. At the same time, we remain mindful of the difficult burdens individualized estimations of capital cost would entail. Accordingly, we seek comment on an alternative to the presumption that an 11.25% rate of return appropriately establishes the capital cost for providing regulated cable service. This alternative method, discussed in more detail below, would provide an equity cost estimate that recognizes the historic growth orientation of cable investors. This alternative method would also allow actual debt cost, and use capital structures based on actual debt and the market value of cable equity. Several comments were filed in this proceeding regarding the rate of return calculation, and we will address these comments in the context of the following methodology discussion.

B. Cost of Equity

1. Background

197. The cost of equity represents the investment return necessary to entice investors to take an ownership interest in the company. For purposes of the interim rule, we determined equity cost under a discounted cash flow (DCF) methodology. Under this method, the S&P 400 was used as a general surrogate for estimated risks of regulated cable service. The equity cost range reflected risks in the third quartile of the S&P 400, leading to an equity cost range of 12% to 15%.[441] This range was incorporated in the calculation of the overall rate of return. The Commission declined to use the capital asset pricing model (CAPM) as an alternative method of calculating equity cost. Based on information available to the Commission during consideration of the interim cost rule, the Commission determined that the estimation of cable equity risk premiums (betas) essential to implementation of the CAPM approach were not reliable indicators of risk associated with providing regulated cable service. This determination was based on potential distortions in the assessment of cable equity volatility due to insider transactions and the anticipated exercise of monopoly power by cable companies.[442]

2. Comments

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[441] *Cost Order*, 9 FCC Rcd at 4626.

[442] *Cost Order*, Attachment D at 8-10.

198. Commenters have raised several issues regarding the equity cost calculation. Principally, these arguments focus on the propriety of the DCF methodology for estimating equity cost and whether an alternative method of calculating equity cost would prove more reliable. Continental, for example, challenges the propriety of the DCF method, arguing that it is an inappropriate measure of equity cost because the DCF method relies on dividends as an integral part of its formula. According to Continental, equity investors in the cable industry seek added value through stock price appreciation rather than consistent return in the form of dividends. The capital asset pricing model (CAPM), Continental suggests, would be a superior method of estimating equity cost for cable companies.[443] Continental has submitted an expert analysis by Dr. A. Lawrence Kolbe that compares the equity cost impact of dividend payments. The analysis concludes that dividend-paying stocks in the S&P 400 achieve similar equity rates of return when calculated under either the DCF model or CAPM approach. On the other hand, Kolbe estimates that non-dividend-paying stocks have equity costs two to three points higher than stocks that pay dividends. Applied to the cable industry, Kolbe estimates that cable stocks should receive an equity return of 17.5% with a capital structure that is 50% equity. He further asserts that, as a practical reality, the equity return should be higher because the cable operators as a whole have higher proportions of debt in their capital structures than the proportion assumed in his analysis.[444] Kolbe also concludes that the degree of insider holdings or transactions do not distort cable company betas. He asserts that insider holdings do not impact cable stock prices when the behavior of cable equities is adjusted for variations in financial risk caused by debt burdens.[445]

199. NCTA also challenges the use of the DCF method. It argues that alternative methods of estimating equity cost were inappropriately dismissed by the Commission. According to NCTA, there is insufficient data to support the assumption that the covariance of cable stocks with the overall market is related to monopoly profit expectations or the degree of insider holdings. In addition, NCTA asserts that the performance of small stocks would serve as a better surrogate for cable company stocks than the S&P 400 because the investment orientation of smaller stocks generally mirrors the growth orientation of cable equities.[446]

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[443] Under the capital asset pricing model (CAPM), equity cost is calculated by assigning an equity premium to a company's stock that is commensurate with the stock's systematic risk (risk that cannot be avoided through equity diversification). Under this model, a stock's equity rate of return is equal to the risk-free rate (obtainable on a risk-free government debt instrument) plus a premium based on the systematic risk of a given security. *See* J. Van Horne and J. Wachowicz, Fundamentals of Financial Management at 112 (1992).

[444] Continental Comments at 49-51.

[445] Continental Comments, Exhibit G at 39-43.

[446] NCTA Comments at 43-44.

3. Discussion

200. We tentatively conclude that the CAPM represents a reliable method of calculating the cost of cable equities as an alternative to the DCF approach employed in the *Cost Order*. The use of the CAPM avoids reliance on equity class surrogates for an analysis of cable industry returns. Instead, it appears that the CAPM may constitute a more direct method of measuring the risk premium that investors place on cable company equities due to risks inherent to the industry itself. Moreover, use of the CAPM can more accurately reflect the investor orientation that drives individuals and institutions to purchase the stocks of cable companies. As a general matter, the DCF method employed in the *Cost Order* depends heavily on the consistent payout of dividends as a key component of its formula, a factor that simply does not apply to cable equities. We believe the absence of dividends may reflect fundamental differences in the strategic nature of cable business operations and the operation of companies whose stocks make up the broad S&P 400 stock index. We believe the equity cost formula applied to the cable industry should recognize any such differences and how they impact the risk-reward ratio of cable investments. Thus, if an operator chooses to forgo the 11.25% presumptive rate of return in favor of the more tailored alternative to capital cost calculation proposed in this Further Notice of Proposed Rulemaking, we propose to apply an equity cost estimated under CAPM principles, as described below.

201. On the record before us, we believe that the DCF method may suffer major shortcomings when applied to the cable industry. Under the DCF method, the cost of equity equals the current dividend yield (dividend divided by current stock price) plus the long-term estimated growth rate of a company's earnings and dividends. Although cable equities as a general matter do not pay dividends, the Commission nonetheless relied on the DCF method by default, basing selection of this approach on what were perceived to be insufficiencies in alternative methods of equity cost calculation. Specifically, the Commission was concerned that the extent of insider holdings and expectations of monopoly profits would distort measurements of the systematic risk of providing regulated cable services.[447]

202. Based on data submitted in response to the *Further Notice*, we tentatively conclude that the concerns that led us originally to dismiss alternative equity cost methodologies for cable no longer justify the wholesale rejection of these methodologies. In the *Cost Order*, we expressed the concern that large insider positions may distort the risk premium assigned to cable equities. Because a major theoretical assumption of the CAPM is that equity markets are efficient, the model correlatively assumes that no single investor is large enough to affect the market price of the stock.[448] Examining the proportion of voting shares held by cable company insiders with respect to publicly traded equities, the

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[447] *Cost Order*, Attachment D at 8-10.

[448] J. Van Horne and J. Wachowicz, Fundamentals of Financial Management at 113 (1992).

Commission determined that betas, quantitative measures that express the risk premium assigned to cable equities, may incorporate insider decisions. In turn, these insider decisions can overstate the size of the risk premium because insiders control large proportions of the voting stock among the publicly traded cable companies.[449] This determination was based, however, on a review of insider holdings available in SEC filings and other publicly available materials such as the Value Line Investment Survey. Our conclusion represented a concern that the degree of insider ownership and control could account for substantial stock price fluctuations. A systematic review of the relationship between insider holdings and movements in stock price, however, was not conducted and data submitted in response to the *Further Notice* do not support the assertion that cable insiders, in fact, exaggerate the stock prices of their companies.

203. In response to the *Further Notice*, Continental's expert, Dr. Kolbe, examined the relationship between cable stock betas and the proportion of stock held by cable company insiders. He concluded that differences in betas corresponded with the extent of financial risk resulting from high leverage. When comparisons of cable stock betas are controlled for such leverage, he concluded that no relationship existed between the betas and the size of insider holdings, indicating that the financial risk resulting from substantial debt burdens, rather than the degree of insider ownership, best explains the fluctuations in cable stock prices (also referred to as stock price volatility). As an example, according to Kolbe, Cablevision's Class A stock has a beta of 1.99 (indicating a systematic risk of nearly twice the broad market). When the company's balance sheet is "relevered" to a hypothetical capital structure of 50% debt, however, the beta drops to 1.48, a level close to the average for cable equities, according to Kolbe's calculation. Kolbe's analysis indicates a relationship between leverage and price volatility, but suggests no evident relationship between the volatility of cable stock prices and the proportion of insider holdings.[450]

204. The Commission, in the *Cost Order*, also noted its concern that price movements of thinly-traded cable equities could be exaggerated by insider transactions. Like the concern related to proportions of insider holdings, the potential impact of infrequent trading was not studied or assessed in data submitted to the Commission. Nevertheless, the issue of thin trading was also addressed in Kolbe's analysis. Citing studies of other analysts who have researched the impact of thin trading, Kolbe concludes that the impact of infrequent trading, if it has any impact at all on stock prices, is to nudge beta estimates downward. In other words, the research cited by Kolbe suggests that infrequent trading reduces rather than exaggerates stock price volatility.[451]

205. Finally, Kolbe examines the assertion that cable betas could reflect

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[449] *Cost Order*, Attachment D at 8-9.

[450] Continental Comments, Exhibit B at 43.

[451] *Id.* at 45.

investor expectations of monopoly profits. Although this assertion is not subjected to a statistical review in his analysis, he asserts that the risk of increasing competition in the provision of multichannel video services should only raise the beta. We simply do not have sufficient data to determine the extent of the relationship, if any, between the existence of monopoly power and the stock price volatility premiums assigned to cable company stocks.

206. Based on information submitted to the Commission in this proceeding, and given the absence of countervailing data, we are unable to conclude that the assumptions that led us to dismiss the CAPM remain a valid basis for rejecting its application to the calculation of cable equity cost. At the same time, we must recognize that the DCF method, despite its proven utility in the context of other Commission rulemakings, depends on dividend features that are largely absent from cable equities.[452] The DCF formula measures the cost of equity as the current dividend yield plus the projected perpetual growth of the dividend yield. The resulting figure represents the discounted value of all the cash dividends provided by a common share of a company's stock.[453] The utility of this model is limited when a company does not pay dividends. A formula designed to measure a future income stream may not be an appropriate model for estimating the rate of return demanded by investors who are willing to forgo an income stream in favor of growth through reinvested cash flow. Unlike the investor who buys dividend-paying stocks, a growth investor forgoes immediate cash return (dividends) and takes the risk that cash flow that could have been used to pay dividends will be better invested by the company in its internal growth. The growth investor assumes the risk that the company's business operations may not vindicate the investor's decision to delay the receipt of immediate income. The incentive to take this risk is the potential reward of a higher stock price in the long run.

207. The CAPM attempts to quantify the risk necessary to induce an investor to follow this kind of growth-oriented strategy. As explained in the *Cost Order*, the CAPM uses a general risk premium which is calculated as the difference in return between a general, diversified portfolio of stocks, such as the S&P 400 or S&P 500, and a risk-free investment, such as U.S. Treasury securities. This risk premium is adjusted for the variance in return assignable to the target company's stock.[454] This variance, or beta, is multiplied by the market risk premium for an estimation of the equity premium. When added to the risk-free rate of return, this estimate constitutes the return on equity necessary to entice investment in

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[452] Continental Comments, Exhibit G at 12.

[453] J. Van Horne and J. Wachowicz, Fundamentals of Financial Management at 81 (1992).

[454] A stock's "beta" expresses the volatility relationship between a target company's stock price fluctuations and the fluctuations of the broad stock market as measured through an index such as the S&P 500. The greater the volatility of the target company's stock price, the higher the beta. Thus, stocks with high betas are viewed as riskier than the stocks with lower betas. At the same time, these higher risk equities promise higher appreciation potential than low beta stocks.

the target company's stock. The formula provides:

$$COE = RF + (beta * RP)$$

Where

COE is the cost of equity,

RF is the current yield on risk-free investment,

RP is the risk premium that compensates for the difference in the risk of a diversified stock portfolio and risk-free investment, and

beta is the measure of a stock's unavoidable variance in return (*i.e.*, non-diversifiable risk).[455]

208. In establishing an equity cost for cable companies, we propose to rely on data from the cable industry itself rather than forgo such direct evidence of industry cost in favor of some other surrogate industry or stock group. In the *Cost Order*, we developed an equity cost estimate based on a selected quartile of the S&P 400. As set forth above, however, we do not believe it necessary to eschew reliance on betas of publicly-traded cable stocks as part of the cable equity cost calculation.

209. Continental's expert, Dr. Kolbe, submitted an estimate of betas applicable to several publicly-traded cable companies. He studied "pure play" cable companies, i.e., cable operators whose dominant business was traditional cable television service during the study period. Based on data estimating betas for 11 "pure play" cable companies over periods varying from one to five years, Kolbe calculated that cable industry betas justify an equity cost for cable companies of 17.5% to 18.5% at a hypothetical capital structure of 50 % equity. Continental further asserts that this estimate is conservative because cable operators tend to be leveraged above the hypothetical 50% figure.[456] NCTA asserts that investments in cable stocks are 30% to 50% more risky than the overall market, justifying equity premiums that would incorporate this level of risk. According to NCTA, an

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[455] Unavoidable risk, or systematic risk, is the variability of return on stocks associated with factors that affect the overall market. This risk is unavoidable in that it cannot be eliminated by portfolio diversification. J. Van Horne and J. Wachowicz, Fundamentals of Financial Management at 112.

[456] *Id.* at 51.

appropriate cost figure for cable equities would be 17.6%.[457]

210. We propose to adopt the CAPM to establish equity cost for cable operators. Pursuant to the CAPM formula, we would establish a risk-free rate of return tied to investment in U.S. Treasury debt securities. We would determine the general equity market premium above the risk free rate. We would then determine the "beta" or added risk premium for investment in cable equities and multiply the beta times the general equity market premium. The resulting figures would be added to the risk-free rate for the final cost of equity.

211. Kolbe provides an analysis of betas for investment in pure play cable companies from 1987 through 1994, relying on stock price data pulled from Compuserve.[458] We propose to rely on this data to establish betas for cable equities. We note, however, that investment in the cable industry has focused in recent years on the long term revenue potential that could be derived from expanding plant use beyond traditional regulated services. Therefore, we propose to limit our analysis of the betas provided in the Kolbe Report to the years 1987 through 1992. We further note that by incorporating 1992 into our analysis, we would include in the equity calculation the increased volatility in cable stocks recognized by the equity market as legislative proposals to regulate cable services were enacted. Although the betas rise significantly following 1992, we are reluctant to incorporate these added measures of volatility at this time because they coincide with a rising focus on potential growth in unregulated services and the record suggests no method we could use to adjust for this increased volatility. Applying the Kolbe analysis to the years 1987 through 1992, the average beta for cable industry equity investment is 1.42.[459]

212. Because we propose to examine an investment period of several years, we propose to use the risk-free rate the average yields on five-year U.S. Treasury Notes after 1987. We selected this period to reflect a time period similar to that assumed in estimating the cable equity premium. Based on data supplied by the Federal Reserve, the average yield on five year U.S. Treasury Notes from 1987 through the third quarter of 1995 is 7.27%.[460] Although this yield exceeds the current yield on five-year notes, this figure is an average that accounts for numerous rate fluctuations over an extended time period. We believe an average risk-free rate may be appropriate for selecting a cost of equity for cable because the equity

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[457] NCTA Comments at 41-44.

[458] Those companies are Adelphia, Cablevision, Century, Comcast, Jones Intercable, Jones Spacelink, TCA Cable, and TCI. Continental Comments, Exhibit G at 41.

[459] Kolbe estimates the annual betas for pure play cable entities as follows: 1.37 for 1987; 1.43 for 1988; 1.45 for 1989; 1.45 for 1990; 1.37 for 1991; and 1.46 for 1992.

[460] U.S. Federal Reserve, 5-Year Constant Maturity Yield, Monthly Averages of Daily Figures, October 3, 1995.

cost estimate would be relied upon in cost of service filings for at least the period preceding an operator's next major rate filing. Moreover, we propose to update periodically the risk-free rate used in the CAPM to account for subsequent interest rate changes.

213. Consistent with the CAPM approach, we would have to estimate the average return on an investment in the general stock market in order to determine the final cost of equity for cable. As the general equity market, we propose using the most widely used barometer of broad stock market performance -- the S&P 500. From 1987 through the third quarter of 1995, the average compounded market return, as measured by the S&P 500, has been 13.53%.[461]

214. Based on the above figures, application of the CAPM formula would result in the following estimate: The general equity market premium above the risk-free rate of return is 6.26% (13.53% - 7.27%). The 1.42 beta for cable equity investment multiplied by 6.26% provides a cable equity premium of 8.89 percentage points above the average risk-free rate. When the risk-free rate is added to the cable equity premium, the final cost of equity can be established. That figure is 16.16%. We propose that the average cost of equity for investment in cable operators providing regulated cable services is 16.16%. We propose to adjust periodically the figures used for the risk-free rate of return, the cable industry beta and the broad equity market return to account for inevitable changes in capital market conditions. We ask comment on this approach.

215. Although the above analysis indicates that, based on data in the record, the equity cost of providing regulated cable averages 16.16%, we also acknowledge that the equity cost is likely to be higher in a case where an operator has a proportionally higher percentage of debt than that of the companies on which we base our cost of equity analysis.. If the operator has been forced to renegotiate loan covenants or has a loan service history that further restricts the availability of affordable debt, the operator's risk level may be higher which would raise the cost of attracting equity investment. On the other hand, the cost of equity could be lower for less leveraged operators. We therefore request comment on a vehicle that would, consistent with the goal of maintaining administrative feasibility, provide a mechanism to adjust the equity cost to reflect extraordinary financial risk. For example, should the Commission consider debt-to-cash flow multiples as the mechanism to quantify risk levels? We seek in this further notice sufficient data to establish equity cost figures above and below the proposed 16.16 % average equity cost estimate for operators with debt burdens significantly above and below the average in our sample. If sufficient information becomes available to establish such figures in a manner consistent with administrative feasibility, we will consider adoption of higher and lower equity cost figures that would be applicable to operators facing debt burdens well above or below that average.

C. Cost of Debt

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[461] Investor's Business Daily, October 2, 1995; S&P Directory (1994).

1. Background

216. The other principal component of the overall cost of capital is the cost of debt. In the *Cost Order*, we relied on debt cost estimates for the cable industry specifically and concluded that the range for the average cost of fixed rate debt established by information submitted in the cost of service proceeding was 7.8% to 8.65%. The Commission noted the substantial proportion of floating rate debt among cable entities and determined that a cautious estimate would place average debt cost at 8.5%.[462]

2. Comments

217. Comcast argues that the cost of cable debt is significantly higher than the cost of debt issued by telephone companies. Comcast notes that cable industry debt does not, as a general matter, qualify for investment grade status, another aspect of cable debt that is unlike the debt of telephone companies. In addition, Comcast argues that the difference in yields between cable and telephone debt ranges from 100 to 157 basis points, depending on the maturity of the debt.[463]

218. TCI argues that the use of average capital costs for the cable industry is inappropriate for cost of service filings because such filings will be made by cable operators whose costs are above average. Thus, the use of average costs of equity and debt will lead to a rate of return below an adequate level for these particular operators. In addition, TCI contends that the regulatory predisposition for using average capital costs in cost of service proceedings is rooted in telephone regulation of the regional Bell companies who possess a common managerial, business and capital heritage. Cable, on the other hand, has a more diverse heritage, and TCI suggests that a lack of common heritage vitiates the reliability of exporting regulatory assumptions for the telephone industry to the cable industry. Diversity of heritage among cable operators, according to TCI, justifies operator-specific treatment of cable system costs. [464]

3. Discussion

219. Consistent with the analysis above concerning the application of unitary rates to all cable operators, we seek to provide greater accuracy to the rate of return calculation by using an operator's actual debt costs to determine the overall estimation of capital costs. Accordingly, if an operator forgoes the presumptive 11.25% overall rate of return in favor of the alternative set forth in this Order, we propose to rely on more direct estimates of capital costs by gauging an operator's debt cost to its actual debt cost. This debt

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[462] *Cost Order*, 9 FCC Rcd at 4628.

[463] Comcast Comments at 10, n.12.

[464] TCI Comments at 37-38.

cost would encompass fees or other premiums that the operator may pay to obtain debt financing. We invite comment on this proposal.

220. We believe the task of estimating debt cost from actual interest costs borne by operators can be conducted without imposing significant administrative burdens. The cost of debt, or interest payments on debt by cable operators, is readily verifiable by operators themselves. We propose to require simply that operators submit an independent evaluation of debt cost and incorporate the resulting interest figure into our rate of return calculation. To ensure, however, that the debt costs claimed by the operator reasonably reflect debt incurred under market conditions, we propose having debt issued by "insiders" or other affiliated entities listed separately in the submission of debt cost. This precaution should ensure that affiliations between the operator and insider lenders do not unreasonably magnify the amount of interest cost borne ultimately by ratepayers. To the extent this debt cost exceeds debt cost that would have been incurred in the open market, we propose making appropriate adjustments to the allowed debt cost amount.

D. Capital Structure

1. Background

221. In the *Cost Order*, we decided against using embedded capital structures and market equity values to establish the capital structure used to calculate the overall rate of return. We indicated that a capital structure range may be more appropriate for the debt-laden cable industry and set that range at 40% to 70% debt and used that range in setting the overall capital cost.[465]

2. Comments

222. Continental suggests that the Commission should rely on individual capital structures of operators in setting the overall rate of return, but acknowledges that the separate components of the calculation, particularly the equity component, can be established against any capital structure assumptions. In the alternative, Continental would support a hypothetical capital structure of 50% debt and 50% equity.[466] Similarly, Bell Atlantic argues in favor of actual capital structures in setting the overall rate of return, suggesting that such an approach is consistent with principles historically governing cost of service regulation of telephone companies.[467]

3. Discussion

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[465] *Cost Order*, 9 FCC Rcd at 4632.

[466] Continental Comments at 52.

[467] Bell Atlantic Comments at 7.

223. We tentatively conclude that actual, i.e., individualized, capital structures should be applied to the estimation of the overall cost of capital. The estimation of debt costs is relatively straightforward because the cost of debt can be documented and certified by independent accounting services. Because debt costs can be measured directly, we tentatively conclude that reliance on the actual percentage of debt in an operator's capital structure will ensure the most accurate estimation of interest costs. Thus, if an operator elected not to rely on the presumptive 11.25% rate of return in favor of the alternative capital cost measure described in this Order, we would look to the actual capital structures of the operator to determine the appropriate overall capital cost.

224. In using actual capital structures to estimate the overall rate of return, we recognize that estimating the amount of outstanding equity is a complex proposition. Because the cable industry has relied heavily on debt financing of its growth and expansion, many operators have a negative net worth at the bottom of their balance sheets. Although we could presume that such operators have 0% equity and 100% debt, we recognize that, in the case of several publicly-traded cable companies, the stock of operators with negative book value trades in significant volumes in the open market. While public utility regulation has relied traditionally on book value estimations of equity in determining capital structures for regulated utilities, it may be appropriate to take note of the equity transactions in the cable industry that occur frequently, including the decisions of cable investors to pay multiples of cash flow for cable systems that, based on book value, should be worth less than nothing.

225. In the case of publicly-traded cable equities, we propose estimating the percentage of equity according to market values. Although we declined to use market capitalization to measure the equity portions of capital structures in the *Cost Order*, we believe such estimates should be relied upon when possible to reflect the simple reality that the investment community places positive value on the equity of cable operators. Indeed, the debt of some of the largest MSOs leads to a negative book value of their publicly traded equity. Nevertheless, equity investors have shown a willingness to purchase the stock of these highly leveraged operators. Our consideration of market capitalization therefore stems from the unique financial circumstances of the cable industry and the actual history of transactions that have occurred within the industry. We do not consider or suggest the application of market capitalization measures in any context beyond that examined in this Order.

226. In order to rely on actual capital structures, however, we must ensure that measurement of the equity proportion filters out a "premium" for anticipated gains in unregulated services. The demand for cable equities may reflect investor perceptions of revenue growth through unregulated services, including local or long distance telephone services. Accordingly, we must develop a discounting mechanism that brings the estimate of equity proportions in line with the expected returns on regulated cable services. Because actual service revenues from unregulated services remain small, a discounting approach based on proportions of revenue derived from unregulated services would not accurately filter out the anticipatory impact of nontraditional cable services.

227. Accordingly, we propose, as part of the proposed rate of return alternative, to utilize actual capital structures in setting the rate of return. As we consider this alternative, however, we recognize that several issues must be addressed and resolved to develop this approach. Moreover, we remain committed to an approach that is administratively feasible. To assist the Commission in this endeavor, we request comment on the following issues:

a. What mechanism or analysis should guide the Commission in estimating the equity proportion of an operator's capital structure that is dedicated to regulated services?

b. How should the Commission estimate the proportion of equity in an operator's capital structure when that operator is not publicly-traded?

c. Should the Commission rely on the book value of debt or the market value of debt in estimating the proportion of debt in an operator's capital structure?

d. Can the Commission develop a reasonable estimate of an operator's capital structure by combining the market value of its equity and the book value of its debt?

e. If market capitalization is used to measure the proportion of equity in an operator's capital structure, will increases in the operator's stock price drive up subscriber rates by increasing the proportion of equity in the operator's capital structure? If so, how can the Commission ensure that reliance on market capitalization measures for equity will not unduly impact subscriber rates?

XIX. REGULATORY FLEXIBILITY ANALYSIS

A. Final Regulatory Flexibility Act Analysis for the *Second Report and Order and First Order on Reconsideration*

228. Pursuant to the Regulatory Flexibility Act of 1980, 5 U.S.C. §§ 601-12, the Commission's final analysis with respect to the *Second Report and Order and First Order on Reconsideration* is as follows:

229. Need and purpose of this action: The Commission, in compliance with Section 3(i) of the Cable Television Consumer Protection and Competition Act of 1992 pertaining to rate regulation, adopts rules and procedures intended to ensure cable subscribers of reasonable rates for cable services with minimum regulatory and administrative burden on cable entities.

230. Summary of issues raised by the public in response to the Initial Regulatory Flexibility Analysis: There were no comments submitted in response to the Initial Regulatory Flexibility Analysis. The Chief Counsel for Advocacy of the United States Small Business Administration filed comments in the original rulemaking order. The Commission addressed these comments in the Rate Order.[468] The Chief Counsel for Advocacy of the United States Small Business Administration also filed comments in response to the *Further Notice of Proposed Rulemaking*. Those comments are addressed herein.

231. Significant alternatives considered and rejected. Petitioners representing cable interests and franchising authorities submitted several alternatives aimed at minimizing administrative burdens. In this proceeding, the Commission has attempted to accommodate the concerns raised by these parties. For example, the revised rules regarding action on rate complaints within two years of a cost of service showing are designed to reduce burdens on both industry and regulators. In addition, the revised rules also reduce burdens on both industry and regulators by simplifying certain calculations involved in producing and reviewing a cost of service showing.

B. Initial Regulatory Flexibility Act Analysis for the *Further Notice of Proposed Rulemaking*

232. Pursuant to Section 603 of the Regulatory Flexibility Act, the Commission has prepared the following initial regulatory flexibility analysis ("IRFA") of the expected impact of these proposed policies and rules on small entities:

233. The proposals, if adopted, will not have a significant effect on a substantial number of small entities.

XX. PAPERWORK REDUCTION ACT

234. The requirements adopted in the *Second Report and Order, First Order on Reconsideration* have been analyzed with respect to the Paperwork Reduction Act of 1995 and found to impose new or modified information collection requirements on the public. Implementation of any new or modified requirement will be subject to approval by the Office of Management and Budget as prescribed by the Act.

235. This *NPRM* contains either a proposed or modified information collection. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on the information collections contained in this NPRM, as required by the Paperwork Reduction Act of 1995, Pub. L. No. 104-13. Public and agency comments are due at the same time as

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[468] *See Rate Order*, MM Docket No. 92-266, FCC 93-177, 8 FCC Rcd 5631 (1993).

other comments on this NPRM; OMB comments are due 60 days from date of publication of this NPRM in the Federal Register. Comments should address: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

XXI. PROCEDURAL PROVISIONS

236. *Ex parte Rules - Non-Restricted Proceeding*. This is a non-restricted notice and comment rulemaking proceeding. Ex parte presentations are permitted, except during the Sunshine Agenda period, provided that they are disclosed as provided in Commission's rules. *See generally* 47 C.F.R. §§ 1.1202, 1.1203, and 1.1206(a).

237. Interested parties may file comments on or before 60 days after publication in the Federal Register and reply comments on or before 90 days after publication in the Federal Register. To file formally in this proceeding, you must file an original plus four copies of all comments, reply comments, and supporting comments. If you want each Commissioner to receive a personal copy of your comments and reply comments, you must file an original plus nine copies. You should send comments and reply comments to Office of the Secretary, Federal Communications Commission, 1919 M Street, N.W. Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center, Room 239, Federal Communications Commission, 1919 M Street N.W., Washington D.C. 20554.

238. In addition to filing comments with the Secretary, a copy of any comments on the information collections contained herein should be submitted to Dorothy Conway, Federal Communications Commission, Room 234, 1919 M Street, N.W., Washington, DC 20554, or via the Internet to dconway@fcc.gov, and to Timothy Fain, OMB Desk Officer, 10236 NEOB, 725 - 17th Street, N.W., Washington, DC 20503 or via the Internet to fain_t@al.eop.gov.

239. For additional information concerning the information collections contained herein contact Dorothy Conway at 202-418-0217, or via the Internet at dconway@fcc.gov.

XXII. ORDERING CLAUSES

240. Accordingly, IT IS ORDERED that, pursuant to Sections 4(i), 4(j), 303(r), 612, and 623 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 303(r), 532, and 543 the rules, requirements and policies discussed in this *Second Report and Order and First Order on Reconsideration* ARE ADOPTED and Sections 76.922

and 76.924 of the Commission's rules, 47 C.F.R. §§ 76.922 and 76.924, ARE AMENDED as set forth in Appendix C.

241. IT IS FURTHER ORDERED that the requirements and regulations established in this decision shall become effective upon approval by the Office of Management and Budget of the new information collection requirements adopted herein, but no sooner than thirty (30) days after publication in the Federal Register.

242. IT IS FURTHER ORDERED that, pursuant to Sections 623 of the Communications Act of 1934, as amended, 47 U.S.C. § 543, NOTICE IS HEREBY GIVEN of proposed amendments to Part 76, in accordance with the proposals, discussions, and statement of issues in the *Second Report and Order, First Order on Reconsideration, and Further Notice of Proposed Rulemaking*, and that COMMENT IS SOUGHT regarding such proposals, discussion, and statement of issues.

243. IT IS FURTHER ORDERED that the Secretary shall send a copy of this *Second Report and Order, First Order on Reconsideration, and Further Notice of Proposed Rulemaking*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with paragraph 603(a) of the Regulatory Flexibility Act, Pub. L. No. 96-354, 94 Stat. 1164, 5 U.S.C. §§ 601 *et seq.* (1981).

244. IT IS FURTHER ORDERED that the Petitions for Reconsideration ARE GRANTED in part, DENIED in part, and to the extent that Petitions raise issues unresolved in this order, they will be disposed of in future orders.

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton

William F. Caton
Acting Secretary

APPENDIX A
List of Commenters

COMMENTS

Bell Atlantic
BellSouth Corporation
Cable Telecommunications Association
Comcast Cable Communications, Inc.
Continental Cablevision, Inc., et al.
Discovery Communications, Inc.
Falcon Cable TV
GTE Service Corporation
Jones Education Networks, Inc.
Liberty Media Corporation
National Association of Telecommunications Officers and Advisors and the City of New York
Rainbow Programming Holdings, Inc.
Tele-Media Corporation
Turner Broadcasting System, Inc.
Viacom International Inc.
Fred Williamson & Associates, Inc.

REPLY COMMENTS

Avenue TV Cable Service, Inc.
Bell Atlantic
Comcast Cable Communications, Inc.
Continental Cablevision, Inc., et al.
Falcon Cable TV
Liberty Media Corporation
National Cable Television Association, Inc.
Tele-Communications, Inc.
Time Warner Entertainment Company, L.P.
U.S. Small Business Administration
U.S. Telephone Association
Viacom International, Inc.

PETITIONS FOR RECONSIDERATION

Bell Atlantic
Bend Cable Communications, Inc., et al.
Cablevision Industries, Inc.
Comcast Cable Communications, Inc.

Media General Cable of Fairfax County, Inc.
Public Interest Petitioners

OPPOSITIONS TO PETITIONS FOR RECONSIDERATION

A&E and ESPN
Bell Atlantic
Discovery Communications, Inc.
GTE Service Corporation
National Association of Telecommunications Officers and Advisors and the City of New York
U.S. Telephone Association

REPLIES TO OPPOSITIONS TO PETITIONS FOR RECONSIDERATION

Bell Atlantic
Cablevision Industries Corporation
Comcast Cable Communications, Inc.
Consumer Federation of America & National Cable Television Association, Inc.
GTE Service Corporation
Public Interest Petitioners
U. S. West, Inc.
United Church of Christ

APPENDIX B

Calculation of Depreciation Ranges

The following describes the methodology used to compute various measures of the economically useful lives of the following cable-related assets:

a. Headend
b. Transmission Facilities and Equipment
c. Distribution Facilities (trunk, drops, etc.)
d. Circuit Equipment (amplifiers, power boosters, etc.)
e. Maintenance Facilities (garages, warehouses, etc.)
f. Maintenance Vehicles and Equipment
g. Buildings (office)
h. Office Furniture and Equipment

The calculations are based on data reported in Section C, Item 9 of the Form 1220s filed with the Commission by 600 system community units seeking to establish or justify rates for regulated services in accordance with our cost of service rules.

Table 1 sets forth the ranges we have established for the assets falling into the listed categories based on the useable data reported in all 600 filings. More detailed data are set forth separately for each individual asset category in Tables 2 through 9.

Although the maximum number of possible observations is 600, operators representing 78 community units either did not provide any information or provided information for all categories that was not useable, for example reporting a single year as the economically useful life for all categories of assets. To avoid double counting, one CUID was excluded from the database because the system data was included in the filing for another CUID. These exclusions reduced the database to a maximum of 521 observations.

Partial information was included in the data base. In many instances an operator did not give any information for one or more asset categories or gave inappropriate information, such as reporting an economically useful life of zero (0) years. When this occurred, the useable information associated with the CUID was included in the data base. As a result, all asset categories have fewer than 521 observations.

In some instances we used averaged data in the categories Maintenance Vehicles and Equipment (f) and Office Furniture and Equipment (h) because a few operators reported only a range of depreciable years. Averaging for these categories is appropriate because the reported range was relatively short, the categories cover a wide variety of assets, and the dollar value of the assets is relatively low.

Based on the useable data, we calculated an average useful life for each asset category.

We then created a range of years for each category, by adding a standard deviation to the average. Standard deviation is a commonly used measure of variability. It measures the amount of variance from the average in a sample. The amount of variance is usually expressed in terms of one or more standard deviations from the average. One standard deviation, when applied to the average, generally will capture about two-thirds of the sample, *e.g.*, in this case, two-thirds of the systems in the sample. After thus creating a range of years for each asset category, we then rounded each end of the range to the nearest whole number.

Operators that submit cost of service filings presumably believe their cash flow requirement is greater than what would be allowed as a result of a benchmark filing. This means that, as a group, cost of service filers may have used years of useful economic life that is shorter than what the industry as a whole uses. On the other hand, given the general similarities of the assets for all operators, there is no reason to believe that the operators represented in this study treat the economically useful life of their assets in a different manner from those not included.

TABLE 1

ECONOMICALLY USEFUL LIVES OF VARIOUS CAPITAL ITEMS REPORTED IN FORM 1220 IN SECTION C-9

DATA ARE BY CUID

SUMMARY

AVERAGES

HEADEND	10.820313
TRANSMISSION FACILITIES & EQUIPMENT	10.110769
DISTRIBUTION FACILITIES (TRUNKS, DROPS, ETC.)	12.480469
CIRCUIT EQUIPMENT (AMPLIFIERS, ETC.)	10.680851
MAINTENANCE FACILITIES GARAGES, ETC.)	26.009901
MAINTENANCE VEHICLES AND EQUIPMENT	4.7586538
BUILDINGS (OFFICE)	25.303785
OFFICE FURNITURE AND EQUIPMENT	9.0696325

MODES

HEADEND	10
TRANSMISSION FACILITIES & EQUIPMENT	5
DISTRIBUTION FACILITIES (TRUNKS, DROPS, ETC.)	15
CIRCUIT EQUIPMENT (AMPLIFIERS, ETC.)	10
MAINTENANCE FACILITIES GARAGES, ETC.)	20
MAINTENANCE VEHICLES AND EQUIPMENT	5
BUILDINGS (OFFICE)	25
OFFICE FURNITURE AND EQUIPMENT	10

MEDIANS

HEADEND	10
TRANSMISSION FACILITIES & EQUIPMENT	12
DISTRIBUTION FACILITIES (TRUNKS, DROPS, ETC.)	12
CIRCUIT EQUIPMENT (AMPLIFIERS, ETC.)	10
MAINTENANCE FACILITIES GARAGES, ETC.)	25
MAINTENANCE VEHICLES AND EQUIPMENT	5
BUILDINGS (OFFICE)	25
OFFICE FURNITURE AND EQUIPMENT	8