

FEATURE ARTICLE



Regulation of Telecommunications Utility Modernization Investments: A Proposal to Require An Economic Impact Statement

Robert C. Fellmeth*

INTRODUCTION: DEREGULATION, COMPETITION, AND THE REGIONAL BELLS

A "natural monopoly" is normally subject to maximum rate regulation.¹ Such a monopoly exists when economies of scale for a single physical plant structure exist across the full range of expected demand for that structure.² Such a structure usually involves high initial fixed costs, as with a railroad or power utility. In other words, there is room for only one enterprise to operate efficiently. It is uneconomic to repeat rights of way, tracks, or lines where a single system accommodates all of the anticipated traffic.

Maximum rate regulation is imposed by state public agencies to prevent excessive prices, and also to assure the owners of the monopoly a fair rate of return on their investment.³ The purpose of regulation is to substitute for the absent marketplace. The ideal market—which would normally allocate resources according to consumer preference through purchasing decisions, and improve competitive performance through the natural selection of the most efficient—accomplishes neither function where a natural monopoly exists. The regulator must somehow set fair prices and prescribe conditions of operation to satisfy consumer preference and stimulate efficiency improvement.

But what happens when the monopoly enterprise wishes to enter into areas where there is competition—where there is clearly room for more than one entrepreneur? What happens when the structure of the industry begins to change so that the fixed cost structure

becomes divisible, or perhaps usable by several competing entities? What happens when it can be bypassed entirely to provide the same service without reliance on the fixed cost structure? What happens when some people are still dependent upon the fixed cost natural monopoly, but others can avoid it, abandon it, lower its utilization, and raise the unit costs for those who must continue to rely upon it? What happens when competitors can take from the fixed plant traffic and "skim the cream," thus removing the high-profit traffic from the fixed plant monopoly enterprise?

These are basic regulatory questions. They are not new. They have been faced, albeit sometimes very unsuccessfully, by the federal Interstate Commerce Commission in its regulation of railroad rates as they interplay with water carriage and trucking enterprises also subject to regulation.⁴ And in the establishment of both power and telecommunications regulation, state public utility commissions have confronted monopoly/competitive sector interaction in a host of contexts: regulated companies dealing with affiliated (non-regulated) suppliers operating in the competitive sector;⁵ and protection of a natural monopoly structure from competition.⁶

But no area presents these questions more starkly than does the continuing technological revolution in telecommunications. Cable television regulation by state and local authorities involves local companies often given effective monopoly franchises, with extremely crude and scandalously deficient arrangements for rate regulation.⁷ Here, a new enterprise raises increasing and serious natural monopoly questions in the control of information distribution, not merely as to recently-addressed issues of free speech access,⁸ but in the ignored area of rate review.⁹

In our more traditional telephone and data communication systems, we are moving somewhat away from what has been an overwhelming natural monopoly structure. Substitutes for some services heretofore thought to be the

province of pre-1984 AT&T and its subsidiaries are technologically feasible apart from the rights of way and lines which formed their high fixed cost "loop". These advances are still largely in gestation, but they do portend possible changes for America's telecommunications industry.

The interaction of competitive business sectors with our telephone monopoly is not new, except historically it has occurred by abuse from the monopoly side into the competitive sector rather than by competitive challenge to the monopoly. AT&T has a long history of incursion into the competitive sector beyond the scope of its monopoly responsibility. It has used its monopoly power to eliminate competition in areas of non-monopoly enterprise in which it was involved.¹⁰ For example, consumer phone equipment may be manufactured by any number of entities, and the activities of then-AT&T regional phone subsidiaries in prohibiting connection to their loops of any equipment except that manufactured by its own subsidiary or affiliated companies have been documented in antitrust litigation over the past two decades. And there are other abuses one might expect, given the verity of Lord Acton's sage dictum that "power corrupts; absolute power corrupts absolutely."

There proved to be a check on the abuses of AT&T: the Antitrust Division of the U.S. Department of Justice.¹¹ In ordering the divestiture of AT&T and the break-up of the Bell operating systems into separate regional companies, Judge Greene in *United States v. AT&T* dramatically reshaped the industry. The concept was not complex: structurally inhibit monopoly power abuse; allow competition where new technology moots the natural monopoly structure; and confine the monopoly to its minimum territory. The brunt of the monopoly power was left with the spin-off independent regional Bell companies. They control the high fixed cost "loop" of rights of way and lines upon which most of us still rely for our telephone service.¹² The generic name for the pro-

The author is a tenured professor at the University of San Diego School of Law and director of the University's Center for Public Interest Law, and is serving as an expert witness during the ongoing Pacific Bell General Rate Case proceedings before the California Public Utilities Commission.



viders of this local loop (the Regional Bells and other small providers which exist outside the previous AT&T structure) is "local exchange carriers," or—in the jargon of telecommunications—LECs.

Now, with the devolution of these LECs, we are left with a new version of old questions, except the interaction is two-sided. New technology may challenge these local monopolies, injuring the monopoly power structure upon which essential services still depend. And the local Bells are anxious not only to meet any such challenge, but to expand into areas of commerce clearly subject to competition and which do not necessarily require any natural monopoly connection.

Some of the parameters of LEC entry into competitive sectors will be set by Judge Greene as he refines his *U.S. v. AT&T* order, but in the long run they are likely to depend more substantially on regulation by state public utility commissions, which now have what is for many of them a newly complex problem: what to do about the proclivities of these LECs to use their still-existing monopoly power structure for advantage in the competitive sector?

This question is a great deal more difficult than the traditional maximum rate regulation questions, such as the definition and calculation of proper rate base, prudent expenditures, anticipated revenue, and fair rate of return at a sensible debt/equity ratio on invested capital. Now we have additional variables: antitrust concepts and concerns; issues of cross-subsidy; protection of the monopoly fixed plant from underutilization; and others.

Moreover, we have regional Bells and other LECs singing a consistent song: if competitors are going to challenge us, let us challenge them. The LECs insist that a new day is already upon us—that their monopoly power system is being bypassed by new technological challenge; and that COMSAT, microwave relays, and private fiber-optic networks are skimming the cream off their high-profit commercial data and other traffic. They argue that in this era of "deregulation," they should be deregulated as well, and should further be allowed "rate flexibility"—that is, the right to lower rates for specific customers to retain high and efficient traffic levels where those customers are presented with competitive alternatives. They want to invest heavily in modernization to maintain that same traffic or to attract new traffic. That modernization will provide services already or prospectively available from

competitive sector sources. The LECs seek latitude to compete.¹³

An examination of these issues is now underway in California as applied to Pacific Bell (PacBell), the regional Bell LEC subsidiary of Pacific Telesis. As part of its initial post-divestiture rate review, the California Public Utilities Commission (PUC), to its credit, has entertained a separate yearlong phase on questions of PacBell's modernization, utilization and productivity (MUP).¹⁴ Growing from this proceeding (which is still ongoing) is a November 25, 1987 order of the Commission to consider *en banc* PacBell's request for "pricing flexibility" for services subject to competition, and certain other related questions.¹⁵

The Center for Public Interest Law (CPIL) has participated in these hearings and has had the opportunity to conduct regression studies on the cost and traffic features of the PacBell physical plant as it is evolving. CPIL has also had the opportunity to engage in substantial discovery into PacBell operating documents and internal memoranda. CPIL has offered its own hearing testimony and exhibits, and has cross-examined at some length those experts provided by PacBell. These proceedings serve as a useful forum to examine the basic regulatory issues, precedents, and policy alternatives applicable to the regional Bell companies and other LECs.

Based on that examination, and on the information currently available from which regulatory decisions are made, CPIL has proposed the formal adoption of a required Economic Impact Statement (EIS), which must be filed by a regional Bell LEC before committing itself to a major modernization investment program. Completion of the EIS would provide a clear structure, consonant with sound regulatory policy, for the proper evaluation of such ventures. And its principles are applicable not only to modernization expenditures to increase traffic, but also to LEC-proposed "rate flexibility" plans, where rate reductions toward out-of-pocket costs (and without overhead contribution) are proposed for a particular group of customers to meet competition.

PACBELL'S MODERNIZATION PLANS AND CRITERIA

During 1986, PacBell spent some \$2 billion for new construction.¹⁶ Expenditures for both growth and modernization will consume many millions of dollars in additional rate base funds, upon which a rate of return or debt interest

payments will be assessed from rate-payers. Over the past decade, much of this "modernization" has involved the replacement of existing switching facilities with more advanced electronic technology.¹⁷ Much of this aspect of PacBell's modernization program has been completed,¹⁸ and PacBell now proposes to enter into a "market need concept," with emphasis on profitability.¹⁹ The electronic switching modernization was justified under a "CUCRIT" formula (discussed *infra*) where direct cost advantages in comparison with existing equipment allegedly justified the investment made.²⁰

The utility now proposes, often under the misnomer of "revenue factors," to advance a modernization program with implications far beyond switch upgrading justified by lower maintenance costs. The LECs are now advancing fiber-optic technology.²¹ The alteration of basic transmission equipment has implications beyond a simple "the maintenance cost savings pay for this improvement" kind of calculation. More important, the LECs are now proposing major ventures into areas subject to unregulated competition, from alarm services to modular phones to data transmission services.²² And the LECs are focusing system changes in areas where they believe bypass threatens loss of business.²³ Further, they are entering directly into the offering of products and services available from competitive sector sources.²⁴

PacBell (as with regional Bell LECs generally) has confined modernization criteria substantially to the use of its CUCRIT formula. This formula calculates the net present value of alternative technology or equipment strategies based on discounted cash flows.²⁵ It purports to calculate whether or not a "modernization" investment is more cost-effective than present equipment or alternative proposals. The value of such a calculation is undeniable.

But PacBell is interested in directing its modernization efforts not merely where more efficient equipment can do the same task more cheaply, but in areas where it can offer new services altogether, particularly where competition threatens the loss of existing customers.²⁶ In PacBell testimony during current PUC rate hearings, witnesses consistently stressed a need to return to market concepts to maintain the satisfaction of long-term existing customers.²⁷ PacBell's expert witness Sullivan contended that PacBell had specific areas "vulnerable to competition."²⁸ PacBell witness Bandler testified that "modernization is the



orderly integration of new technology," and that the post-divestiture environment requires "flexibility" and a "profit orientation."²⁹ PacBell witness Whittiker testified that the utility must achieve economic growth and evolution.³⁰ And, with particular candor, PacBell witness Copeland testified that the purpose of modernization should be to maximize the pool of money available for distribution by the utility,³¹ and in testimony defended this rationale as sufficient, standing alone.³²

PacBell leaps from its CUCRIT history into broader arenas by citing "revenue factors" which vaguely must be taken into account.³³ They are to be examined by unannounced criteria on a "case by case" basis.³⁴

MISSING MODERNIZATION CRITERIA

LECs cannot justify major modernization decisions in the new environment based on a CUCRIT formula standing alone, or supplemented by "revenue factors" based upon the need to stem traffic loss because competitors take traffic from their fixed cost plant or "loop." The new environment faced by the LECs makes the introduction of other relevant considerations essential. These additional factors perhaps understandably are not considered by a utility which has never previously dealt this substantially in the competitive sector, and which continues to operate by examining internal cost efficiencies and external factors affecting growth. Where growth is not a function of mere "forecasting," but may be a dynamic interaction between the LECs' cost advantages and those cost advantages of companies operating in the competitive sector, the criteria relied upon before advancing risk capital must be much different. We now do not have the mere task of forecasting population and use growth or decline. We now have the possibility of substantial changes in utilization levels for fixed plant. We now have a PacBell modernization commitment which will bring a counter-stroke by those in the competitive sector. Based on the state of the record in the MUP phase of the PacBell rate proceeding before the California PUC, these prospects are not familiar concepts to LEC managers.³⁵

Apart from the utility, the regulator has additional responsibilities to calculate whether or not the utility should enter into a sector otherwise served by competitive forces, to measure the effect of such entry on the structure it regulates (particularly the monopoly power

portion where its stewardship remains), and to measure cross-subsidies both within the utility between competitive and noncompetitive areas, and between the utility and those outside forces contending with it.

Utilization and Economy of Scale Analysis

As an LEC, PacBell remains a high fixed cost enterprise, subject to increasing competition for some of its business, while retaining monopoly power for the brunt of it.³⁶ As a general matter, higher utilization of its network lowers average costs, promoting affordable rates and universal service, and can also mean avoidance of duplicative investment.

It is theoretically possible for competitors to remove traffic from the fixed plant portion of PacBell ("bypass"). It is also possible that the fixed plant cannot be "stepped down" or reduced in size to accommodate that lower flow at high utilization levels. Where that decline in traffic lowers the utilization of fixed plant, revenue requirements per unit of traffic increase. Unit costs go up if the same plant handles less traffic. This loss is particularly important if it affects high-profit traffic already cross-subsidizing those who have no alternative but PacBell services. Hence, PacBell's theoretical argument that "universal service" is threatened may have merit if those conditions giving rise to the danger exist.³⁷

In its Notice of En Banc Hearing to consider modernization criteria, the PUC acknowledged the relevance of utilization analysis, but fell into a conceptual trap in assuming that: "[f]ull network utilization has two components: (1) retaining and expanding the customer base for existing services and (2) adding new services."³⁸ In fact, full utilization³⁹ of the local network and accompanying lower average costs are not directly or necessarily dependent on either retaining existing customers, or expanding customers, or adding new services.

To assume that maximizing each of these factors necessarily leads to lower average costs presumes that the local exchange network is everywhere operating below its optimum, and therefore all customers should be retained and more traffic added. There is no data to support this thesis and much to refute it. Particularly as it assumes that growth is always preferred, the theory is on decidedly thin ice, and the regulator should be wary of going very far with it.

The LECs routinely assume that there are essentially infinite economies of scale

and that increased efficiencies are always possible through the capture or retention of maximum traffic. For example, they routinely assume that more net access lines (NALs) yield greater overall efficiencies. Thus, PacBell's efficiency measures traditionally rely on figures derived from NALs. However, and as admitted by PacBell's expert economic witness Dr. Lewis J. Perl,⁴⁰ it is a well-known axiom of economics that very large enterprises often reach a point of diseconomy of scale. That is, they achieve maximum efficiency at a given size, and further traffic addition requires capital or other cost commitments which raise the unit cost of providing service. Hence, additional traffic can increase average costs for all customers and diminish overall plant efficiency.

It is critical that the regulator not assume that the LECs have infinitely increasing economies of scale. As a simple illustration, if a major sunk-cost facility serving a stable market is already operating at 95% utilization, it may be very unwise to permit expansion of new services in that area, in order to generate 10% more traffic, if that will necessitate major new capital expenditures for core services. These costs would be over and above those directly related to the new services, and would be borne by all ratepayers, yielding a net increase in average costs. This same *caveat* exists in allowing the LECs to lower rates to marginal cost (that is, out-of-pocket costs) to keep traffic or attract new traffic when the result may be required capacity (plant) expansion costing a great deal more than the low rates charged for that traffic. This concern for both rate lowering or modernization commitment to keep or enhance traffic is especially appropriate, since both rate breaks and modernization are generally directed at various kinds of business traffic—and the surge of business traffic from 9:00 a.m. to 5:00 p.m. is what compels the capacity levels of current plant in the first place.⁴¹

The generally correct statement in the Notice that "higher levels of network utilization lower average costs" goes astray with the apparent corollary that expanding the customer base and adding new services are necessary components. That analysis "assumes only straight line total cost curves, a highly unlikely possibility."⁴² Therefore, while it may be true as a general matter that increasing levels of traffic may lead to increased levels of utilization which may lead to lower overall average costs, the regulator should not adopt that syllogism uncritically in every case. When-



ever an LEC refers to utilization levels to justify capital expenditures (or selectively lower rates), either to retain existing customers or to expand the customer base or products, the regulator must examine the underlying thesis with extreme care to be certain the data justify the assumptions.

CPIL has performed a rudimentary study of PacBell's economies of scale, in order to preliminarily test the assumption that "expanding the customer base" and "adding new services" are linked to decreasing average costs.⁴³

The genesis for the study is a simple set of facts. Since 1970, PacBell has more than doubled in size. If it is true that economies of scale exist, then the increased size should reveal that average costs are declining as more traffic is handled. The questions are obvious: as the number of NALs double, what happens to normalized average costs per line? Per CCS message unit (a measure of line wage)? Per number nine toll call? When the plant handles twice as many CCS message units, does the average cost of CCS message units, adjusted for inflation, decline? What is the case for toll calls?

CPIL's study has been hotly disputed by PacBell, which would prefer it be discarded. CPIL has never pretended its study is definitive or comprehensive; it could not be, since only PacBell has the data and wherewithal to perform complete economy of scale studies. However, two factors from the CPIL study stand out: (1) a large LEC such as PacBell may already be close to an optimum size such that little if any further decreases in average cost can be anticipated from further growth;⁴⁴ and (2) PacBell has steadfastly refused to do even preliminary work to determine its economies of scale in its own plant, either as a whole or as to any of its parts relevant to its modernization plans.⁴⁵

CPIL used data supplied entirely by PacBell, and used PacBell's own "Telephone Plant Index" to normalize costs for inflation. CPIL took each separate PacBell cost factor, as well as total costs, and ran a series of statistical computer regressions. The results are remarkable. There is very little reliable relationship in the individual cost accounts as to the unit costs at varying PacBell operational sizes. No measure of growth compared to costs shows any strong economy of scale, and some may even show diseconomies of scale. In all cases, the curve is very shallow, suggesting that while there may be diseconomies of scale

as CCS and NALs have grown, and some economies of scale as toll calls have increased, the difference in unit costs produced by increases in NALs, CCS, and toll calls is very slight, whether higher or lower. Thus, the gross measures relied on by the LECs do not evidence any substantial economy of scale structure.⁴⁶ Fluctuations up or down in total traffic simply may not make any statistically significant difference in average costs.

This study and its results should not be the end of this inquiry, but should give the regulator pause before adopting a generalized theory of growth assuming economies of scale and necessarily leading to lower average costs overall. Before the Commission relies on that syllogism for its decisions, it should require the LECs to collect and provide appropriate analyses of their economies of scale.

This argument is not meant to imply that economy of scale and utilization analysis should assume no economies of scale. It is possible that for a given aspect of an LEC's plant (e.g., where fiber-optics are being applied), there is a major economy of scale feature. It is also possible that the relationship between traffic and cost is curvilinear and that, for example, diseconomies of scale for NALs become sharply more pronounced as NALs are added. These questions are not dispositive, but illustrate the most challenging aspect of the study: the LECs have *no* idea of their economies of scale and have conducted few if any studies to determine them.⁴⁷

Turning from the link between growth and average cost to the particular case of competition within the existing customer base, the threat of bypass does not necessarily mean a decrease in utilization or an increase in average costs. The regulator should not assume that fixed costs assigned to a customer who opts to bypass the system will necessarily stand idle following loss of the customer.

First, of course, to the extent that the organization has grown beyond its optimum size, stepping back in a particular part of the plant may result in net savings for all. Even more important, the loss of the existing traffic from bypass may simply not register at all, due to growth.

The astonishing continuing growth in demand for telecommunications services—regardless of population or economic indices—belies any hard connection between bypass and absolutely lower utilization levels. For example,

PacBell faces growing demand regardless of competition. The loss of a particular customer does not necessarily diminish overall utilization; rather, it may simply slow the rate of growth. In the revenue requirements phase of the ongoing General Rate Case, for instance, PacBell's witnesses identified various increasing sources of traffic for PacBell's future business.⁴⁸ Every one of the indices of traffic and operational size increase available—number of new telephones, CCS units, NALs, and number nine toll message units—indicate steady increase every year, with the exception of one measure during one year.⁴⁹ The evidence is conclusive that regardless of some competitive challenge, traffic continues to increase. Thus, bypass by a given customer, or even class of customer, may be swallowed by the continuing growth in other customer classes.

Accordingly, the regulator should avoid the LECs' kneejerk reaction to alleged customer loss. Although the LECs may have an institutional desire to retain every customer, the regulator should not share that goal, and steady traffic increases raise doubts about the validity of a syllogism automatically linking retention to high utilization to lower average costs.

Despite the evident need for data on utilization, PacBell and the other LECs have done nothing to gather the data they need, or to apply it to their competitive investment decisions. Even PacBell's own econometricians acknowledge the need for utilization data. For instance, PacBell's Perl has recently testified that with regard to the marginal cost of additional services, "in order to assess that you have to know whether those costs vary depending on the scale of the output."⁵⁰ Furthermore, he agreed that specific utilization projections were necessary regarding specific parts of the plant affected by a modernization decision before the investment could be made.⁵¹

Another of PacBell's experts testified that valuation of outside plant (OSP) utilization must be based on "incremental cost analysis and not on simplistic analysis...."⁵² Similarly, yet another PacBell witness has argued that the measurement of central office utilization (COU) is not adequate.⁵³ Yet these two indices of utilization (OSP and COU) are the *only* indices available from current PacBell data, are not presented by the utility by aspect of plant affected by an investment decision, and play no role in rate or modernization decisions at PacBell. Nor are they a part of



PacBell's CUCRIT benefit-cost computer model.

The significance of utilization and economy of scale analyses is not new to the California PUC. The Commission has already recognized that there are severe problems with simply assuming that costs are directly correlated with growth. In Decision 86-01-026, the Commission specifically put the LECs on notice that uncritical application of "sizing drivers" (allowing costs to pass through and allow more revenue based on a percentage increase in new traffic or NALs added) is a thing of the past.⁵⁴ At the urging of CPIL, the Commission for the first time refused to simply assume any straight line relationship between net access lines and costs, and instead demanded a close analysis. "In future rate proceedings, we expect Pacific Bell, General and Continental to address in their direct showings the correlation between their various sizing drivers and incremental expense changes."⁵⁵ In other words, if the PUC calculates that an LEC justifiably needs \$800 million in revenue to operate in 1987, the LEC projects 10% more traffic (or 10% more NALs) in 1988, and the next rate proceeding is set for 1990, how is the revenue requirement for 1988 to be figured? LECs will propose, in an abbreviated "attrition" proceeding, that rates be set to yield \$880 million—a straight-line sizing driver. But if there are economies of scale, the unit costs should decline with additional traffic and costs should be projected at less than \$880 million.

The California Commission has rejected the notion that there is a direct correlation between "expanding the customer base" or "increasing traffic" and total costs. Economies of scale must be considered. Regulators should be careful not to inferentially readopt, in the context of allowing modernization investment to protect unit costs, what they have rejected in the context of traditional monopoly ratemaking.

CPIL has presented to the PUC four threshold sub-tests of utilization which should be considered in making a modernization investment decision. These factors are quite beyond the CUCRIT considerations of PacBell.⁵⁶ These four tests form the "utilization" element of CPIL's proposed EIS requirement, and should provide the basis for PacBell justification and PUC review of a proposed modernization investment.

First, the PUC must determine that there is in fact a natural monopoly structure appropriate for protection. If all

services deemed necessary by society can be provided by the competitive sector, there may be no inevitable natural monopoly structure to warrant concern.⁵⁷ Clearly, such a monopoly structure exists today as to most or all LECs.

The second test concerns the impact of the modernization investment on utilization of existing plant. Although the PacBell CUCRIT formula partially measures utilization of the specifically proposed modernized equipment, it does not measure utilization impact on ancillary equipment, or on the plant as a whole—and, as explained *infra* these are critical factors. In order to determine whether or not a system efficiency benefit will accrue from a modernization program, one must know which aspects of the utility plant are fixed and which are variable (*i.e.*, how do the costs respond to changes in traffic), and also the utilization levels for major fixed cost increments.

For PacBell or another utility to consider a modernization investment, it must make a sophisticated economy of scale and utilization analysis.⁵⁸ Then it must determine to what extent a proposed modernization project will affect economies of scale and utilization levels resulting thereafter. This analysis must include those aspects of fixed plant connected to it and affected by it.⁵⁹

This analysis is particularly called for as to PacBell, given the fact that the gross unit cost numbers appear to justify, in and of themselves, no modernization campaign to maintain either NAL or CCS levels, and only an extremely focused and frugal modernization effort to maintain toll call levels. Given the fact that toll call levels have doubled during the last eight years, it is doubtful that a substantial argument could be made for modernization investment to stem bypass even here. And, as noted above, all traffic measures have been steadily increasing. However, the data to support such an argument may be available as to a particular part of PacBell's plant, and should be marshaled if applicable.

Following this analysis, PacBell must move to the third consideration relevant to utilization: that of "indivisibilities." To the extent it finds declining utilization or substantial economy of scale structure, to what extent can fixed plant be "stepped back" or reduced and put to alternative use? How big are the pieces of fixed cost increments and over what period of time can they be adjusted to the alterations and traffic flow *in futuro*?⁶⁰

Finally, PacBell must calculate the cost of modernization on a unit basis *vis-a-vis* the savings which will occur from the increased utilization of physical plant. It must measure the cost savings from increased utilization and calculate that against the cost of modernization. These are calculations above and beyond those required by the CUCRIT formula, but they are important to any modernization investment decision which does not rely on straight out-of-pocket cost savings justifications.

Competitive Impact and Cross-Subsidies

PacBell and other regional Bells and LECs are increasingly subject to competition. In the tradition of monopoly enterprises, PacBell seeks to use its market power to extend itself into areas subject to competitive challenge. This extension by a utility requires a measurement of the competitive environment. At the most basic level, the utility must look at its new venture unit costs *vis-a-vis* those of its existing or likely competitors. If the competitors can do it more cheaply, the utility should not try it, even if the competitors' *current* prices are high enough to give the utility a theoretical profit on its new investment venture. Further, the regulator must be sensitive to the cross-subsidies which may be implicit in a new investment—including where certain users pay a larger proportion of total utility fixed plant overhead, or pay for modernization capital costs while those using modernized facilities or services pay only out-of-pocket costs.

Finally, the impact on outside entrepreneurs and the competitive marketplace should be evaluated. These competitive impact concerns form a part of the major discipline of antitrust law. Prior and limited monopoly/competitive sector interaction has given rise to a series of egregious restraints of trade by AT&T, PacBell, and others, which have resulted in extensive litigation and court-ordered divestiture.⁶¹

As in the area of utilization, however, the LECs have been woefully deficient in recognizing or gathering the most basic economic data needed to assess the competitive impact of their entry into new markets. In evaluating an investment designed to compete with existing facilities available in the market, several steps must be considered—none of which are part of the criteria currently used by the LECs. The regulator must impose upon the LECs the obligation to assess the competitive impact of their



investment decisions.

First, the LEC must measure the current and potential cost structure of its competitors. Any entrepreneur in the marketplace seeking to venture risk capital will begin by surveying the market and will then evaluate the present and potential competitors capable of offering competing cost structures.

In effect, most LECs are still bound by the monopoly mentality. They measure only two factors in making their modernization investment decisions: their own internal cost factors, and external factors only as they affect growth. They utterly ignore the competition. They simply fail to recognize that the environment is not a benign one which is static; on the contrary, competitors will react to the LEC's entry into the market, and customers will react to both the competitors and the LEC. In the simplest terms, the competitors will immediately begin to drop their prices to best the LEC. The LEC must therefore also begin to lower its price to stay competitive, or offer other incentives that raise the LEC's cost to retain the customer.

In either case, the cost and revenue figures calculated in the vacuum are no longer relevant. A vigorous competitive marketplace ensures that this kind of move and countermove will continue, as each side drops its prices toward its long-run marginal costs. Neither side can long continue in the market once the price drops below its marginal cost. However, the LECs simply fail to assess their competitors' cost structures to determine whether they have an inherent cost advantage that will necessarily result in the competitor undercutting the LEC.⁶² This most basic information that every shopkeeper needs before he opens his doors—how low can I go and how low can the fellow next door go—is utterly lacking in one of the largest companies in the state.

In addition to gathering basic competitive data, the LECs must be required to calculate cross-subsidies. To the extent cross-subsidies may be involved within the LEC in order to carry the competitive enterprise, they should be revealed. It is possible that this cross-subsidy may take the form of low utilization levels of new modernized plant, to be carried by lower levels of utilization and higher average costs by existing ratepayers. If so, the analysis urged above as to utilization should reveal that cross-subsidy. There may even be subtle cross-subsidies (profitable aspects which are carrying below-marginal-cost

ventures).

Finally, the regulator must be concerned with issues which escape the LECs regarding the legal impact of utility intrusion into the competitive sector. LECs are in a position to commit what would otherwise be antitrust violations in the marketplace. These violations may include all or any of the following vagaries of behavior traditional where an entrepreneur possesses substantial market power in one market and intrudes into another: group boycotts (Sherman Act Section 1); tie-ins (Sherman Act Section 1, Clayton Act Section 3); predatory practices (Robinson-Patman Act, Sherman Act Section 2); and/or unfair extension of monopoly power (Sherman Act Section 2).

The problems of deferring to a utility's unbridled discretion as it operates in the competitive sector predate *U.S. v. AT&T*, and occupy a large part of the archives of antitrust abuse. The body of law stretches from the 1922 *Keogh v. Chicago & N.W.R.R.* case⁶³ to the cable television cases recently under litigation.⁶⁴ A review of the findings of facts in these cases, and literally thousands of lower court progeny, should make any regulator cautious about countenancing monopoly entry into the competitive sector without maximum information and at least a modicum of prophylactic safeguard.

In addition to monopoly power abuse, a natural monopolist intruding into the competitive sector raises the same problems as those which exist in the body of regulatory law known as "dealings between affiliated enterprises." Problems commonly arise where a regulated monopolist buys and sells, not to obtain maximum service at optimum cost, but in a setting of ancillary interests and motives. PacBell's dealings from monopoly to competitive challenge sector include the same imprudence and cross-subsidy dangers as do dealings with affiliated enterprises (which may also be directly involved as well). These scenarios traditionally demand cost review and impact assessment.⁶⁵ In fact, the most pernicious modernization abuses involving negative utilization and competitive impact implications are likely to be cloaked through affiliated enterprises, making this analysis and proposal relevant to the examination of modernization projects of affiliated enterprises a critical part of rigorous affiliated company review.

As noted above, the problems of monopoly/competition interaction are not matters of first impression. In trans-

portation and in communications, analogous precedents exist which support required review of the competitive impact outlined above. A leading case is *FCC v. RCA Communications, Inc.*⁶⁶ There, Justice Frankfurter reviewed FCC policy concerning an attempt by Mackay Radio and Telegraph Company to compete in an area of RCA's FCC-granted franchise. The Court reversed the Commission's allowance of competitive interaction, and thoroughly scolded the regulator for simply assuming a benefit from competition as a "national policy" without a thorough, fact-based inquiry into public interest impacts. The Court rejected the notion that competition is automatically to be preferred, or that regular monopoly intrusion into competitive areas is to be presumed.⁶⁷ The Court then instructed the Commission to evaluate in detail the interaction between monopoly and competition in setting its policies.⁶⁸

In *American Commercial Lines, Inc. v. Louisville and Nashville Railroad*,⁶⁹ Justice Marshall explored in detail the kinds of cost comparisons which should be evaluated by the Commission in determining regulatory policies. The issue there turned on whether the railroad should be allowed to compete against water carriers, which are not a natural monopoly, in the carriage of ore. Related to the issue of the monopolist's desire to invest in modernization of the competitive sector in order to capture business now carried by another, the railroad sought a reduction in rates to allow it to compete. The first area of detailed consideration was the "inherent cost advantage" of the railroad's monopoly structure seeking entry into the business area of the barges. Justice Marshall discussed the ICC's computation of both modes' fully distributed and out-of-pocket costs per ton,⁷⁰ and then the history and meaning of the term "inherent advantage."

The entire context of the *American Commercial Lines* decision—and, indeed, the entire body of law in this area—is the fundamental examination of basic out-of-pocket and fully distributed costs of the monopolist and those with whom the monopolist might compete.⁷¹ Yet the behavior of the nation's LECs to date voids this critical line of inquiry which has been mandated by the courts on regulators. Adoption of the suggested EIS would ensure that the considerations repeatedly demanded by the courts remain part of the competitive investment calculation.

Perhaps the most telling language



supporting the proposed EIS can be found in *United States v. Western Electric Co., Inc.*⁷² There, the trial court, having reviewed an elaborate evidentiary record of telephone utility abuse, was confronted with requests for "waivers" by regional holding companies for competitive sector entry—otherwise limited by a then-outstanding court order. The court refused to grant any such waivers, and issued scathing remarks about the history of regulatory review of holding company operations in the competitive sector:

In response to these concerns, the Regional Holding Companies argue primarily that cross subsidization is not a competitive issue but a regulatory cost allocation matter for which regulatory sanctions and penalties already exist. In addition, they contend that, even if they did engage in such anticompetitive conduct, the appropriate remedy would be a new antitrust action, not a refusal to grant a waiver. [footnote omitted] These arguments are entirely without merit.

The cross subsidization of competitive activities with profits earned from a regulated enterprise constitutes precisely the kind of conduct the decree was intended to curb, and for which the decree contains...a very precise remedy. There is therefore no reason or basis for turning elsewhere when such practices are threatened by organizations subject to the provisions of the decree.

That remedy, moreover, is preferable to a regulatory one. Cost misallocations and improper transfer pricing in interaffiliate sales have proved difficult, if not impossible, to detect.* It is for that reason that regulatory oversight has not been in the past,** nor is it likely to be in the future, an adequate check against them; it is for that reason that section VIII(C) was incorporated in the decree; and it is for that reason, too, that the burden was placed on the Operating Companies to demonstrate the absence of an anticompetitive effect. By contrast, in a new antitrust action or in a regulatory proceeding the proponent of a restriction would have the burden of proof. In short, the prevention of cross subsidization and other anticompetitive practices is an appro-

propriate and significant ingredient in any decision under section VIII(C).

*There is no formula for allocating common costs among services, and, even if there were, the fact is that the Regional Holding Companies alone possess all the relevant cost information and have a great deal of discretion in the treatment of such costs.

**The crux of the government's case against AT&T was that regulation had failed to safeguard competition from a powerful firm, engaged in both regulated monopoly and unregulated services, which had the incentive and the ability to use its regulated monopoly to impede competition in potentially competitive markets.⁷³

The court concluded that the Holding Companies should carry the burden in showing competitive impact *before* granting any waiver.⁷⁴ Once a sunk-cost investment has been made, its unwinding may prove difficult even where "imprudent investment" is later adjudicated. PacBell and other LECs have a propensity to raise arguments about the illegality of "retroactive ratemaking."⁷⁵ However, penalties or disallowances as to prospective operations are—in most cases—unlikely to compensate ratepayers fully for the improvident use of ratepayer revenues or ratepayer financed investment monies.

PACBELL'S FAILURE TO CONSIDER CRITICAL CRITERIA: THE RECORD

PacBell has argued throughout its 1985-88 rate review proceedings before the California PUC that the considerations cited above are not included because they are "unnecessary." It is important for the regulator to know the extent of the present void as to this largest LEC, both for its own sake and inferentially for the nation's other less extensively-staffed LECs. In Application 85-01-034, CPIL presented extensive data requests to PacBell concerning utilization and utilization-related factors.⁷⁶ For example, CPIL requested "all studies regarding utilization of fixed plant of PacBell."⁷⁷ The response filed by PacBell staff witness Pettit is followed by several pages of sample data of the information gathered by PacBell in response to this question. The first two pages presented central office utilization data for 1986 for approximately 100 exchanges; additional pages covered

other exchanges for other years. PacBell also presented a similar sample of its OSP data. This response by Pettit to a request for "all studies" regarding PacBell's utilization of fixed plant yields no utilization analysis or study whatever, except for the central office equipment and OSP percentage figures required by the Commission and denigrated by PacBell itself, and even this information is not used in utility investment decisions.

Additional CPIL data requests asked for all studies differentiating costs of fixed plant between customer or customer types; all studies showing the marginal costs of adding additional NALs by customer categories; all studies showing how modernization costs have been or will be allocated among customer categories; and all incremental cost studies, such as exchange costs, dial tone costs, and imbedded cost studies. These various requests were made in order to fully explore possible considerations missing from the existing record which PacBell might employ. PacBell's responses cited existing information in certain workpapers,⁷⁸ which also lack the utilization and competition considerations described above.

In order to further document the way in which PacBell makes its modernization decisions, CPIL asked a series of questions in 85-01-034.⁷⁹ CPIL asked for documents outlining planned "new products and services" as described in the testimony of PacBell witness Whitaker.⁸⁰ Another request asked, as to each new product or service initiated after 1980 or planned for implementation during the 1980s decade, for any documents or studies outlining investment or operating costs, and any demand studies or other documents indicating the actual or anticipated user group as to each.⁸¹

PacBell responded to these and other CPIL requests by revealing its inhouse process for new product-service approval, including PacBell internal deliberative documents for a substantial number of the post-1980 projects. The internal memoranda produced in 85-01-034 in response to CPIL requests for all such documents are starkly revealing. Unfortunately, these documents were produced by the utility only under a protective order barring their disclosure. Although embarrassment (rather than trade secret protection) is a more likely utility motivation for confidentiality as to some of these documents, we are compelled to respect the protective order. However, the PUC is in possession of this material, presented by CPIL in sealed exhibits.⁸²



The conclusions any observer must draw from a review of the current PacBell pre-approval analysis are as follows:

(1) the utility's economic analysis ranges from crude to non-existent;

(2) The utility is focused on its business customers;

(3) The utility calculates its likely return, if that calculation is made at all, based on existing competitor *prices* (not costs);

(4) If an investment will "keep" existing customers, it is justified, according to PacBell;

(5) There is a willingness to invest ratepayer monies solely to improve the image of the utility; and

(6) There is no consideration of the variables proffered here, including plant capacity, economies of scale, utilization (or, indeed, traffic impact accommodation at all), competitor costs, cross-subsidies or anticompetitive impact.

PacBell does not hide its orientation; during recent PacBell General Rate Case hearings, CPIL cross-examined PacBell staff witness Bandler about "a modernization expense which is undertaken solely because, regardless of any other criterion, it could generate a net profit from ...[PacBell's] customers." Bandler responded: "I think that would be proper."⁸³ Bandler continued with candor: "The prime determinant of a probable modernization project would be the increase in net present value that one would get from the economic analysis one would do with that project. That, in effect, optimizing the profitability or the net present value is in fact the prime criteria we would use for deciding whether to do a modernization project."⁸⁴ Note that the net present value calculation in PacBell's CUCRIT formula, as noted above and as admitted by PacBell, does not include any of the plant utilization or competitive impact elements urged by CPIL.

PacBell believes it should use the same criteria as those used by an unregulated business subject to competition. The cross-examination of PacBell's witness Copeland is consistent: "The same methodology or the same tool, the same decisionmaking tool would be appropriate either in the franchise area or in an area which is highly competitive with other existing suppliers and service."⁸⁵ Certainly PacBell should use the considerations common in the competitive sector (which it does not), but it must then factor in (for regulatory review) additional elements because of its natural monopoly and the problems of monopoly-competition interaction (which it

also does not do).

The failure of PacBell to address the two major areas of inquiry in any modernization decision—and its lack of plans to do so—is particularly regrettable in light of its own expert's testimony at recent rate hearings concerning their impact. PacBell's expert Dr. Perl testified under CPIL cross-examination that economy of scale and utilization numbers, as well as cost data, are important information to have in making modernization decisions.⁸⁶

THE PROPOSED ECONOMIC IMPACT STATEMENT

Regulators cannot simply cut the LECs loose to freely make investment decisions justified by their incantation of "competition." State regulators must recognize that LECs are emphatically *not* just another player in the telecommunications marketplace.

The public agency has a set of regulatory goals more inclusive than and different from the LEC's internal goals. The regulator is caught between several conflicting interests: a desire to encourage new technology, especially where that technology may subject to competition an area of commerce previously subject only to a single entrepreneur; a desire to give the utility a chance to provide the same technological services challengers may proffer; a desire to see those who are dependent upon monopoly services receive those services at a reasonable cost; and a desire to make sure that the sunk cost already committed to a particular monopoly enterprise is efficiently used.⁸⁷

In order to prevent unfair competition or cross-subsidies, an Economic Impact Statement (EIS) should accompany any proposed investment decision designed to address competition⁸⁸ in excess of \$5 million, or which involves more than \$2 million in additional projected annual expense or revenue.⁸⁹

After the decision to proceed, substantial flexibility in implementation, timing, and pricing by the utility may be appropriate. The only crucial restraints that need be imposed on the LEC by the regulator are those with regard to expenses and prices. First, the expenses and costs of the investment decision must accurately be held against the revenues from the competitive product, service, or customer category, to avoid any cross-subsidy. Second, the price charged the customer for the new service, or for the service supplied to retain or attract customers, must never be allowed to fall below the long-run average costs of the

project. Within these rather broad constraints, however, there is a diminished need for the regulator to intimately involve itself in the management of the project.

It is crucial, however, that this be a prospective decision. The regulator will be faced with insuperable problems in trying to assess and allocate financial data after the fact. If segregation is desirable from a regulatory viewpoint, it must occur before the investment is made. Moreover, as the cases discussed above make clear, the regulator has an affirmative duty to oversee the competitive impacts before the actions are undertaken. Post hoc decisionmaking will not suffice under a general rubric of fostering competition. For the LEC, the advantage of careful scrutiny before the investment may be balanced by relaxed regulation in the implementation.

CPIL recommends a required EIS which includes three elements. We note that precise data and minimal required information in each category may be subject to further refinement. But the basic elements suggested for initial inclusion in the EIS are currently within the capability of the LECs.

Financial Impact. The first of the three elements is an analysis of the projected revenue stream and return on investment impact. PacBell currently performs this through its CUCRIT computer formula which calculates the net present value of an investment and limited alternatives. Although the Ratepayer Advocate Division of the PUC has many concerns about the proper usage of PacBell's computer formula, a properly devised model and analysis may show direct cost savings from an investment decision under current traffic and equipment conditions so as to justify approval without proceeding further. If such a showing can be made, the two remaining steps of the Economic Impact Statement may be waived.

However, where an LEC makes a large-scale investment decision (certainly involving more than \$5 million in total investment or anticipated annual revenues or expenses in excess of \$2 million in total), where that decision may affect traffic, and where it involves a competitive interaction with a non-utility service or product, EIS steps Two and Three, respectively, should be undertaken. The Economic Impact Statement should be submitted in advance to the regulator's staff for review, to intervenors and affected competitors for comment (albeit in summary form to respect any relevant trade secrets of the utility),



and finally to the regulator for at least summary consideration.

Utilization. The second element is utilization, as discussed in detail above. In the EIS, this factor measures the impact of the proposed product, service, or investment on utilization levels of both added and existing physical plant. The LEC should be required to provide the following information relevant to utilization levels: (1) the projected utilization of the added plant required for the proposed product, service, or investment over its life; (2) the impact of the product, service, or investment on the increased or decreased utilization of existing fixed plant facilities already in place as a sunk cost; and (3) the calculated total average cost reduction (if any) attributable to any such increase in utilization. This analysis requires utilization and economy of scale measurement of the LEC plant as a whole, and for the particular portions of the LEC plant which would be operationally affected by a given product, service, or investment modernization decision.

Competitive Impact. The third element—competitive impact—would analyze the relationship between the proposed new product, service, or investment and similar services or alternatives which may be offered by others.⁹⁰ This element requires an analysis of the following: (1) whether the proposed product, service, or investment must be or is inextricably connected to the monopoly power loop of the LEC, and if so, how and to what extent (*i.e.*, is it something only the LEC can offer or is it amenable to competitive offering); (2) the extent to which outside nonmonopoly competitors are capable of providing that product or service; (3) the comparative cost characteristics of providing that product, service, or investment from the LEC resources as opposed to the competitive sector; (4) the cost advantages of LEC assumption of that new product or service against outside alternatives; (5) the current incidence (or announced plans) of entrepreneurs in the competitive sector to provide the proposed product or service; (6) the restrictions or guidelines on the purchase or use of the items or services *vis-a-vis* their marketing by competitors; and (7) the extent to which a cross-subsidy may occur from monopoly power loop sectors within the LEC structure to carry the operations proposed. As to this last subject of analysis, a cross-subsidy analysis would include the extent to which the new product or service will be carried on a marginal cost basis without contribution to the

LEC's existing overhead.

CONCLUSION

The proposals put forth here are based on the need for full and accurate information from the LECs as they increasingly unlimber their competitive muscles.

The stunning lack of basic information about the LECs' economies of scale and utilization levels affected by competitive investment should give LEC regulators pause before unleashing them. Further, the unwillingness or inability of the LECs to behave as true entrepreneurs in assessing their competitive positions suggests they are less ready for the competitive forces than their professions of eagerness would indicate. The regulator necessarily has a set of goals which are far broader and more complex than are the LECs' internal concerns. The anticompetitive potential of the LECs' involvement in nonmonopoly interactions requires, under well-established precedent, careful, thorough, and prospective oversight by the regulator. Flexibility may be a desirable regulatory mode, but it cannot fulfill the regulator's other public goals unless that flexibility is preceded by an assurance that cost or efficiency advantages exist, and that anticompetitive impacts have been minimized.

On October 2, 1986, PacBell issued a press release announcing Memoranda of Understanding with two companies to jointly develop an advanced telecommunications network system. The press release and ensuing news articles announced that it was a move which "could lay the foundation for hundreds of new customer services."⁹¹

The reporters covering the story noted that "PacBell officials would not discuss the financial aspects of the memo, the cost of...[PacBell's investment], and would give only limited examples of services the planned software would provide."⁹²

The signing of memoranda of understanding with two firms, legally committing PacBell to a long-term relationship for the provision of new products and services as a part of a long-range modernization program, was not revealed to the California PUC prior to its formal public announcement, or prior to its entry in final legally binding form. PacBell's failure to inform the regulator about imminent plans in this area was particularly unfortunate, given the fact that the announcement occurred after almost one year of proceedings on the very subject relevant to those commit-

ments: the modernization policies of PacBell—which hearings were in progress while the discussions were held and decisions were made.

The bad faith of the utility is accentuated by the fact that it had before it, for a full four months prior to this announcement, a data request from CPIL for information which would have compelled the disclosure of these plans and respective commitments.⁹³ Its responses omitted their mention.

Pacific Telesis, the parent of PacBell, continues to engage in substantial public relations advertising which it may erroneously believe PacBell ratepayers will finance. But whoever pays for it, PacBell's imprimatur is placed on the ads running in the mass media throughout California seeking to associate the management of these related companies with the courage and skill which brought the world major human advancements deserving of admiration through the millennia. One ad purports to equate the *modus operandi* of Pacific Telesis management with the skill involved in early weather satellite prognosis, which, it is announced in stentorian tones, has saved thousands of lives in the tracking of hurricanes. Another ad associates the logo and name of PacBell's parent with the miracle of the Golden Gate Bridge, featuring stoic workmen stringing massive cable in the sky. The most recent advertisement attempts to associate management philosophy with the foresightedness which created the Suez Canal. In each case, the definition of "telesis" is paraded forth: "intelligent planning."

It is not intelligent planning to enter into binding legal commitments without developing the most elementary criteria for prudent modernization investment. It is not intelligent planning to ignore the ways in which the basic economic structure of your own capital plant may be affected by those decisions. It is not intelligent planning to fail to calculate traffic impacts and utilization levels as they may affect average costs for the system as a whole. It is not intelligent planning not to investigate, and at least estimate from available information, the cost structure of competitors. And it is not intelligent planning to be unaware of the cross-subsidy impacts on existing services and customers of planned investments totaling billions of dollars.

If the regulators of PacBell and other LECs wish to assure "intelligent planning," they will have to provide it—or require it—themselves. They can do so most assuredly by obtaining the information, in advance, relevant to their public



responsibilities as regulators: information about monopoly sunk plant utilization and cost impacts, and information about competitive impact. An Economic Impact Statement is a formalized procedure which will ensure routine consideration of basic factors now missing from these momentous long-term decisions.

FOOTNOTES

1. A "natural monopoly" is typically described by economists as occurring where "the long-run unit cost function declines continuously out to a scale of output which saturates potential market demand." F. Scherer, *Industrial Market Structure and Economic Performance* at 520 (1970).

2. Note that maximum rate regulation of businesses "affected with the public interest" has historically passed constitutional muster based upon a judgment that the business is basic to other enterprises (e.g., common carriage), mixed with concerns over monopoly. See *Munn v. Illinois*, 94 U.S. 113 (1877).

3. *FPC v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

4. See, e.g., *ICC v. New York, New Haven & Hartford Railroad*, 372 U.S. 744 (1963); see also *American Commercial Lines, Inc. v. Louisville & Nashville Railroad*, 392 U.S. 571 (1968). For a critique of ICC policies which irrationally protect inefficient modes of transport from competition, see Fellmeth, *Interstate Commerce Omission* (Grossman, 1970).

5. Regarding affiliated enterprise transaction, see *Smith v. Illinois Bell Telephone Co.*, 282 U.S. 133 (1930); *In Re Pacific Telephone & Telegraph Co.*, 53 P.U.R.3d 513 (Cal. P.U.C. 1964).

6. Regarding protection of monopoly structure from competition, see *Idaho Power & Light Co. v. Blomquist*, 26 Idaho 222, 141 P. 1083 (1914); see also *FCC v. RCA Communications, Inc.*, 346 U.S. 86 (1953); *Hawaiian Telephone Co. v. FCC*, 498 F.2d 771 (D.C. Cir. 1974).

7. Far from being regulated at the federal level, cable rate regulation is delegated to local jurisdictions; in California, as in most other states, there is no rate regulation authority at the state level. Fragmented local government agencies—with their own proprietary interests in the collection of "franchise fees"—generally do not engage in fair-rate-of-return maximum rate regulation, notwithstanding the practical natural monopoly structure of most cable systems.

8. See *City of Los Angeles v. Preferred Communications*, —U.S.—, 106 S.Ct. 2034 (1986).

9. Although federal antitrust law would appear to preclude the "blank check" grant of monopoly cable franchises by a state to local governments, see *Community Communications Co., Inc. v. City of Boulder*, 453 U.S. 921 (1982), the Ninth Circuit has ruled that a state legislature may, if it so intends, allow a local agency to grant such monopoly franchises without required competitive bidding or clear rate regulation standards. *Tom Hudson & Associates v. City of Chula Vista*, 746 F.2d 1370 (9th Cir. 1984); see also *Preferred Communications*, *supra* note 8.

10. See *U.S. v. Western Electric Co., Inc.*, 592 F. Supp. 846 (D.D.C. 1984); see also *U.S. v. AT&T*, 524 F. Supp. 1336 (D.D.C. 1981).

11. *Id.*

12. Note that on December 3, 1987, U. S. District Judge Greene somewhat narrowed the areas of business open to the regional Bell companies created by his 1984 AT&T divestiture order. However, the scope of new investment opportunity for the regional monopolies is unclear, as is the tenure of his revised order. Further, Judge Greene has noted that his enforcement of his own orders depends upon U.S. Department of Justice protests and reportage, which he openly suggested has not been assiduous.

13. In California, Pacific Bell (PacBell) has proposed a program of unilaterally-determined "modernization investments," advocating no outside pre-clearance; "rate flexibility" within bands so as to enable it to meet competition and maintain traffic; and the freezing of residential rates for three years. See PacBell's proposal to California Public Utilities Commission (PUC), En Banc Hearing held September 24, 1987, preliminary to OII 87-11-033.

14. See PUC Application 85-01-034.

15. PUC Application 87-11-033.

16. PUC Application 85-01-34, Exhibit 530 at 5. All further references to "Exhibits" and "Transcripts" refer to documents filed in the PUC's ongoing PacBell rate review proceeding, which consists of an initial phase (now completed) concerning capital accounts and revenue requirements before Administrative Law Judge Ira Alderson; and a second phase covering modernization, utilization and productivity (MUP) before Administrative Law Judge Lynn Carew, which awaits final Commission decision as of this writing.

17. Exhibits 559, 565, and 580.

18. See, e.g., Exhibit 559 at 522.

19. Exhibit 603 at 9, 11.

20. Exhibit 572.

21. See Exhibit 603 at 19; see also Exhibit 565 at 4 and Exhibit 530 at 6.

22. See, e.g., Exhibits 2 and 3 of CPIL's Exhibit 679.

23. Exhibit 603 at 9.

24. See Exhibit 603 at 9-15; see also Exhibit 559 and Exhibits 2 and 3 of CPIL's Exhibit 679.

25. See, e.g., Exhibit 572.

26. See especially Exhibit 3 of Exhibit 679 ("Competitive Impacts—A Report on Bypass by PacBell").

27. See, e.g., Exhibit 603 at 9.

28. *Id.* at 11.

29. Exhibit 559 at 22.

30. Exhibit 561 at 10.

31. Exhibit 572 at 5.

32. Transcript at 12122-23.

33. See, e.g., Exhibit 561 at 23-24, 58.

34. Exhibits 603, 686.

35. See, e.g., Transcript at 17202-04.

36. Exhibit 541 at 4.

37. Exhibit 541 at 5-12.

38. PUC's Notice of En Banc Hearing Re Alternatives to Cost-of-Service Regulation, at 6 (notice dated August 11, 1987).

39. Actually, "full" utilization is by no means the goal. Optimum utilization at some factor less than 100% utilization is in fact the economic goal, to allow for, *inter alia*, churn, maintenance, and repair. Accordingly, optimum utilization of fixed plant will be referred to hereafter.

40. Exhibit 686 at 14.

41. See Testimony of R. C. Fellmeth, filed January 11, 1988, in OII 87-11-033 (detailing time-of-day traffic levels and analyzing rate level policy issues).

42. Exhibit 686 at 14.

43. See Exhibit 541 at 25-31, and Exhibit B thereto.

44. Exhibit 541 at 26-31, and Exhibits B, C, and D thereto.

45. See PacBell's briefs in PUC Application 85-01-034; Transcript at 17428-46. PacBell acknowledges in its argument and expert testimony that it has performed no study more extensive or detailed than the CPIL regression analysis it criticizes.

46. See Exhibit 541 at 26-31, and Exhibits B, C, and D thereto.

47. See *supra* note 45; see discussion *infra*.

48. See, e.g., Exhibit 114.

49. See Exhibit 74 at 16-18; Exhibit 42 at 5-10; Exhibit 76 at 12-14; Transcript at 921-22.



50. Transcript at 17461-62.
 51. *Id.* at 17464.
 52. Exhibit 565 at 4. The same witness testified that "OSP utilization is not an appropriate indicator of outside plant capital deployment efficiency." *Id.* He contends that "fiber-optics" cannot be measured by traditional utilization measurements at all. *Id.* at 14.
 53. Exhibit 580 at 12.
 54. Decision 86-01-026 at 110-12. It is worth noting that PacBell had routinely used sizing drivers for many of its costs that applied direct ratios derived from net access lines. In effect, these simple multipliers presuppose that as access lines increase, so will costs. That is, there is no economy of scale. This, of course, directly contradicts the assertions used to justify new investments to retain and add customers: that the retention and expansion will result in decreased average costs. As is so often the case, the argument useful in one context is turned on its head in another context.
 55. *Id.* at 112.
 56. Exhibit 541 at 12-15.
 57. See *Market Street Railway v. Railroad Comm'n*, 324 U.S. 548 (1944).
 58. Transcript at 17216-22.
 59. Exhibit 541 at 30.
 60. *Id.* at 16.
 61. See *supra* notes 10-12.
 62. See Exhibit 2 of Exhibit 679; Transcript at 17202-04. Note that PacBell's position through its witnesses throughout Application 85-01-034 has been that its formula measuring PacBell revenue based on current competitor prices (not costs) is sufficient; see discussion *infra*.
 63. 260 U.S. 156 (1922); see also *U.S. Navigation Co. v. Cunard Steamship Co.*, 284 U.S. 474 (1932); *U.S. v. Borden Co.*, 308 U.S. 188 (1939); *Federal Maritime Board v. Isbrandisen Co.*, 356 U.S. 481 (1958); *PanAmerican World Airways, Inc. v. U.S.*, 371 U.S. 296 (1963); *Ricci v. Chicago Mercantile Exchange*, 409 U.S. 289 (1963); *Silver v. New York Stock Exchange*, 373 U.S. 341 (1963); *Carnation Co. v. Pacific Westbound Conference*, 383 U.S. 213 (1966); *FMC v. Seatrain Line Inc.*, 411 U.S. 726 (1973); *Hughes Tool Co. v. TWA*, 409 U.S. 363 (1973); *Otter Tail Power Co. v. United States*, 410 U.S. 366 (1973); *Gordon v. New York Stock Exchange*, 422 U.S. 366 (1975); *S.S.W. v. Air Transport Ass'n*, 191 F.2d 658 (D.C. Cir. 1951), *cert. denied*, 343 U.S. 955 (1952). For an FCC communications case, see *U.S. v. Radio Corp. of America*, 358 U.S. 334 (1959).
 64. See, e.g., *Preferred Communica-*

tions, supra note 8.
 65. See *Smith v. Illinois Bell Telephone Co.*, 282 U.S. 133 (1930); see also *In Re Pacific Telephone and Telegraph Co.*, 53 P.U.R.3d 513 (Cal. P.U.C. 1964).
 66. 346 U.S. 86 (1953).
 67. *Id.* at 93-95.
 68. *Id.* at 95-97.
 69. 392 U.S. 572 (1968).
 70. *Id.* at 577.
 71. See also *ICC Cost Evidence Proceeding*, Docket No. 34013 (sub. No. 1) (May 1, 1973). For a similar analysis of the factors relevant in another area of monopoly/competition interaction (cable television), see Boies and Verkuil, *Note on the Regulation of Cable Television, Public Control of Business* 88-97 (Little Brown & Company 1977); for another interesting discussion, see Hjelmfelt, *Retail Competition in the Electric Utility Industry*, 60 *Denver L.J.* 1 (1982).
 72. 592 F. Supp. 846 (D.D.C. 1984).
 73. *Id.* at 854-55 and nn. 19-20.
 74. *Id.* at 873; see also *id.* at 865-73 for detailed justification of confinement of regional holding companies to decreed-permitted local telephone service provision. For a similar analysis regarding the Operating Company's past and likely abuse, see *U.S. v. AT&T*, 524 F. Supp. 1336, 1373 (D.D.C. 1981).
 75. See, e.g., Application of PacBell for Rehearing of Decision No. 87-10-075, filed November 30, 1987 in PUC Application 85-01-034.
 76. See Exhibit 1 of Exhibit 679.
 77. See Data Request 3 USD #1.
 78. See PacBell 1986 NOI Generic Overview of Methodology at 10004-10006; IC:1 to IC:3, September 1984, Vol. 3, Exhibit 80 at 43-90; see especially Volumes 3 and 10 of the Scholl workpapers.
 79. See Exhibit 2 of Exhibit 679; Data Request 3 USD #14.
 80. Data Request 3 USD #15.
 81. *Id.*
 82. See sealed Exhibits attached to Exhibit 679.
 83. Transcript at 12122.
 84. Transcript at 12123.
 85. Transcript at 12633.
 86. Transcript at 17432-64.
 87. Exhibit 541 at 10-11.
 88. Of course, many investments are made not only to meet competition, but also to achieve cost savings in existing plant. Where a new investment does not intersect with the competitive sector, but is likely to affect traffic volumes, the utilization element of the proposed EIS should be required. Where there is competitive sector entry or interaction, the full EIS should be required—in advance.

89. These threshold figures were selected after reviewing PacBell's new product-service projects from 1984 to the present (contained in sealed exhibits in Exhibit 679). *De minimis* or marginally-impacting projects appear to cluster below these levels. These size parameters may be adjusted to a lower level for a smaller LEC. The regulator must also take care to scrutinize under-threshold initial proposals which may "get in the door," only to expand past these limits after implementation.
 90. If the competition is for existing customers or service, the analysis would shift from new products or service to making investments designed to retain existing customers.
 91. The Memoranda of Understanding were signed with Integrated Technology, Inc. (ITI) of Plano, Texas, and Tandem Computers of Cupertino, California. The Memoranda of Understanding provide for both PacBell and Tandem to buy a 24.5% interest in ITI, with each company given a member on ITI's board.
 92. See CPIL's Motion to Compel Further Responses from PacBell to Document Request, Exhibit C, filed November 3, 1986 in PUC Application 85-01-034.
 93. At least eight of CPIL's twenty-five data requests submitted to PacBell on May 30, 1986, would require disclosure of these Memoranda of Understanding.

