

LACTC states that the acquisition cost for cellular licenses have historically ranged as high as \$300 per POP.<sup>11</sup> Hypothetically, even if a more conservative value of \$100 per POP is assumed for the Los Angeles market, and \$1.4 billion were added to the investment base in the LACTC 1992 Annual Report, the overall after-tax rate of return would drop to 7.3%.

McCaw disputes claims that cellular carriers earnings are excessive by presenting pro forma earnings calculations imputing a value for cellular spectrum based upon amounts paid for SMR spectrum. We address the merits of McCaw's claims as to spectrum valuations and earnings impacts in our discussion below.

In their paper critiquing Hazlett's study of cellular profits, Haring & Jackson<sup>12</sup> characterize the the high rents associated with cellular carriers as merely being the "opportunity cost of spectrum" or the "resource cost of airwaves" which are allegedly ignored in Hazlett's derived Q ratios.

By contrast, CRA contends that the high value of the cellular license is attributable to the market power it offers the holder. Since only two licenses are issued per market area, potential competitors who might otherwise enter the market and offer lower prices are precluded from doing so. If these markets permitted free market entry, entrepreneurs would take note of the above-market returns being earned by cellular carriers particularly in large markets such as LA and San Francisco. The price of

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<sup>11</sup> A "POP" refers to the Proportionate Population Equivalent, representing a means of measuring population residing within a telephone market.

<sup>12</sup> The paper of John Haring and Charles Jackson was referenced in the Hazlett papers submitted by Nationwide Cellular, but not provided. In the ALJ ruling of April 11, 1994, Nationwide was directed to supplement its comments by providing the Haring & Jackson Paper, which they did on April 28, 1994.

cellular service would be bid down to levels that generate profits roughly corresponding to those of enterprises in other industries having corresponding risks.

a. Discussion

We conclude that the earnings of cellular carriers are relevant to an assessment of market power. As is true with cellular prices, cellular earnings data must be interpreted carefully. The market and technological characteristics of the cellular industry are different from those of other industries which we regulate, and we would not necessarily expect to see rates of returns which are uniform among different industries or among individual firms within the cellular industry. Nonetheless, we conclude that the level of earnings of many cellular carriers have been excessive and further indicate insufficient competition to keep prices in check.

As a basis for our findings, we have considered not only the earnings data submitted in parties' comments, but also our own review of carriers' earnings dating back to 1989, as reported in the annual reports submitted to this Commission.

While firms generally are expected to earn returns commensurate with their risk, we find no evidence that the risk faced by cellular firms justifies such high returns as those earned in the major metropolitan markets. On the other hand, in Phase II of I.88-11-040, DRA found that cellular carriers' returns exceeded returns of industries with comparable risks.<sup>13</sup>

In our review of market power in the interLATA telecommunications market D.93-02-010, we considered rate of return measures as an indicator of competition. On the one hand, we

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<sup>13</sup> See DRA's August 11, 1989 Phase II Comments on Regulation of Cellular Radiotelephone Utilities, p. 4-25 (as cited in its reply comments in this proceeding, p. 7).

observed that "[r]ates of return vary for many reasons and do not per se indicate the absence of effective competition."

(D.93-02-010 at 49). Likewise, we pointed out in D.90-06-025 that:

"Accounting rates of return for wholesale carriers do not in themselves reveal whether profits are due to a scarcity of available radio spectrum, uncompetitive pricing, or the ordinary returns on investment that may be earned due to the riskiness of the cellular industry."

Nonetheless, while we avoid arbitrary presumptions about the causes of carriers' rates of return, that doesn't mean that we should ignore earnings data in assessing the market power of cellular carriers. As we have stated previously:

"Instead of ignoring the rates of return, we believe that they are reliable indicators of a competitive market, especially if there are consistent patterns in earnings over time, and are viewed in tandem with other measurements of market power."  
(D.93-02-010 at 35.)

Accordingly, we are interested in reviewing patterns in cellular carriers' earnings over time and relative to other investment options as a basis to assess market power. In a competitive market without entry barriers, excessive returns above competitive levels would tend to attract new competitors seeking a share of the lucrative returns. As more competitors entered the market, they would progressively bid down prices until a market-clearing level of expected earnings was reached.

The question is what range of returns would be associated with cellular carriers assuming their earnings were constrained by a competitive marketplace? As we previously concluded in D.90-06-025, the cost structure of the cellular industry does not lend itself to uniform measures of expected earnings levels. As we stated in explaining the problem of

applying traditional rate of return regulation in the cellular industry:

Carriers differ in their numbers of customers, precise service areas, equipment, and in numerous other characteristics that affect costs. We would be faced with setting different prices or different allowed rates of return; the former would artificially bias the market towards one carrier while the latter could be attacked on fairness grounds."

We acknowledge that the total earnings of any given carrier can vary significantly from one MSA to another. In a few cases, even net deficits have been reported in some years. Yet, the returns earned by carriers in the largest metropolitan areas representing the majority of California consumers have been consistently high over several years. Differences in earnings among carriers and MSAs can be attributed to a variety of factors including population density and mobility, commuter traffic, geographic factors, management quality, and changing technology. Another factor, particularly in earlier years, is the age of the carrier and how much time it has had to establish itself in the market. Not surprisingly, the highest returns tend to be earned in those MSAs with the greatest population density. But undeniably, another essential element explaining the high returns in certain regions is that the large wholesale cellular market in these regions is shared by only two duopolists.

We also recognize that there is a scarcity value related to the limited amount of spectrum available for cellular transmission, and some portion of cellular profits can be attributed to this scarcity factor. As we observed in D.90-06-025:

"if cost-of-service calculations produced prices that did not account for the scarcity value of the license, then systems would become overburdened with subscribers; the resulting degradation in service quality and potential need to ration the service would impair economic efficiency."  
(P. 16.)

As to what constitutes excessive returns indicative of the improper use of market power, we observed in D.90-06-025 that prices charged above marginal costs were not per se improper to the extent that cellular carriers used the profits to expand capacity and increase service availability to the public. We concluded therefore that "profits earned due to the scarcity of available radio frequencies are best left to the carriers" and promote economic efficiency. (P. 15.) On the other hand, we distinguished "profits due solely to a failure to compete in a duopolistic market" as improper. We stated that there is an incentive for carriers not to compete vigorously when new entrants cannot join the market to undercut monopoly-type prices. Evidence of such improper pricing would be the pricing of cellular services so high as to discourage full utilization of the system, or failure to invest in system expansion when it is economically justified.

The cellular carriers deny that they have restricted output to achieve monopoly-like profits, but instead have expanded their systems significantly over the past 10 years. There is no question that growth in cellular subscribers has been dramatic and rapid by comparison with other industries. But such expansion does not, of itself, prove that cellular carriers have priced their services competitively. Rather the rate of system expansion is more indicative of the fact that the industry is still very young, and the intrinsic demand for mobile telephone service in California has been dramatic. We conclude that pent up demand for mobile telephone service in California has been inherently strong in spite of--not because of--the level of cellular prices. Thus, the question is not whether cellular systems have expanded over time, but rather, how much more rapidly demand would have grown had it more fully utilized potential cellular system capacity and not been inhibited by uncompetitive prices. It is an uncompetitive price that acts to restrain output by limiting demand to those customers who are able and willing to pay the prices required by the cellular

carriers. Even with the substantial growth in cellular usage over the past decade, still only about 5% of the California population uses a cellular phone.

Accordingly, if cellular carriers' pricing levels were a result of spectrum scarcity, this would imply they are already serving at maximum capacity given the scarce FCC-spectrum which they are licensed to use. If prices were further reduced below the level associated with maximum capacity demand, then demand could be overstimulated beyond the available supply of calling capacity. Thus, to avoid a rationing of service, or risk of service interruptions, it would be appropriate for cellular carriers to keep profits resulting from pricing service to attract demand only up to the limits of available capacity.

On the other hand, it is not appropriate for cellular carriers to set prices at a level which restricts demand for the service by raising prices above the scarcity value of the spectrum in order to enhance profitability at the expense of competition. As noted in the K&W study, cellular carriers can increase their effective capacity in various ways. One constraint on capacity is the allocation of radiowave spectrum within which a carrier can operate under its FCC license which assigns 25 MHz of spectrum to each of two competing carriers per service area. Within the the allocated spectrum, the carrier has available a fixed number of radio frequency channels per cell site. Within the constraints imposed by 25 MHz of spectrum, the carrier can further increase system capacity by cell division. By reducing transmitter power, and hence cell size, the same frequency can be reused at closer distances. Doubling the number of cells would double the number of potential users. This approach entails additional costs for more cell sites and links between the cell equipment and the MTSO.

Another way to increase system capacity is by increasing the number of voice channels per radio frequency channel. While analog cellular systems require one radio frequency

channel for each voice channel, digital systems can provide six or more voice channels per radio frequency channel.

The most likely carriers to have reached full capacity would be cellular carriers in the most populous region of the state, Los Angeles. LACTC argues that for its own system, system coverage and capacity has expanded "as quickly as humanly possible" since 1987. During this period, its investment has grown by a factor of about 10 while its end user units have increased from 17,000 to about 500,000 units in service.

Yet, even assuming that capacity is a constraint in parts of the LA market, this is not a state-wide condition. As DRA noted:

"Currently, only parts of the LA [Los Angeles] market are capacity constrained and will need significant investments in order to expand their services. LA has an efficiency ratio of 635 subscribers per each frequency which is at least three times larger than the next largest market. LA's efficiency ratio illustrates the expansion that is possible in other California cities. Clearly, capacity is not a constraint for expansion; cellular prices are." (DRA Memo quoted in Nationwide Comments, p. 32 fn.)

Even here, capacity is constrained not by physical limits, but by reluctance to make additional investment which would otherwise reduce high duopoly profits. Likewise, the national average density of systems, measured by subscribers per cell site, rose from 372 in December 1985 to 962 in June 1992. This increasing density does not indicate capacity has been constrained or that potential demand was being fully served through this period. Instead, there is indication that additional customers could have been added to cellular systems had prices been lower. Moreover, the data on capacity utilization submitted in response to the ALJ ruling in this proceeding further corroborate that capacity remains available to expand the cellular customer base.

Accordingly, excess earnings cannot be explained away as due to scarcity of spectrum or avoidance of rationing service.

Similarly, excessive earnings of cellular carriers cannot be justified by virtue of the high costs incurred for a FCC cellular license franchise. We conclude that the FCC license value, particularly of the larger California cellular markets, cannot be attributed merely to inherent scarcity of spectrum. The FCC license conveys the exclusive right to utilize particular frequencies of spectrum to sell cellular telecommunications services in a prescribed area. The license has a value to market traders at a level approximating the discounted present value of the rents flowing from entering the restricted market. The fact that cellular license values reflect more than scarcity of spectrum is evidenced by comparison with the license value of other spectrum allocations. If spectrum scarcity was the only or primary determinant of license value, we would expect the value per-MHz of licensed spectrum to be roughly equivalent when compared nationally. Yet, on a national level, a 1991 NTIA Report deduced the present value of duopoly profits as established by the financial markets for cellular licenses at \$80 billion. As a point of comparison, the aggregate value of cellular licenses utilizing 50 MHz of nationwide spectrum space are over seven times the transaction value for all the licenses utilizing the 400 MHz of spectrum space allocated to radio and television broadcasting, for a market price differential of 62 times (on a per-MHz basis). Likewise, while the CBO estimates a valuation of \$7.2 billion for PCS licenses to use 120 MHz of spectrum is dwarfed by the \$80 billion value of cellular licenses to use only 50 MHz of spectrum.

Thus, while the reported returns of cellular carriers in annual reports filed with the Commission do not include the capitalized value of FCC licenses, it is wrong to simply include the full license value in the investment base as an opportunity cost of market entry to reduce apparent profit return in assessing

market power. Otherwise, any entry barrier can be erased as a source of duopoly profits and simply turned into a "cost of doing business" through reclassification as a capitalized investment. Such reclassification masks the duopoly profits we are seeking to identify. Accordingly, the pro forma calculations of carriers such as LACTC which computes a pro forma 1992 return of only 7.2% (instead of a reported return of 51.6%) are unrealistic in assuming that the full market valuation of a license should be capitalized for assessing market power profitability.

As noted by Hazlett (Nationwide comments), cellular carriers do not "own" the airwaves as a resource cost. Rather, the airwaves are public property held in trust by the federal government. The Communication Act of 1934 made the federal government responsible for management of the radio spectrum through the issuance of licenses for its private use. These licenses were to convey merely the right to use the radio spectrum consistent with the public interest. Accordingly, the mere fact that a carrier has paid substantial sums for a cellular license does not entitle the carrier to unrestricted opportunity to recover excessive prices from consumers to compensate for expensive licenses.

McCaw attempts to demonstrate that cellular carriers do not earn excess profits as a result of market power through hypothetical earnings adjustments discussed on pages 17-19 of its reply comments. McCaw's calculations purport to show that California cellular carriers' pre-tax rate of return would be below 25% if the investment base were increased to include a valuation for cellular spectrum at levels shown in its hypothetical scenarios. Yet, we find that McCaw's hypothetical earnings calculations to be based on a number unproven, questionable assumptions that fail to show that excess earnings can be simply dismissed as evidence of market power and attributed fully to spectrum scarcity. We discuss McCaw's premises below.

One of the premises assumed in McCaw's calculations is that the the cost paid to acquire SMR spectrum provides an equivalent measure of "uncontaminated" cellular license value free of excess profits due to market power. McCaw bases this assumption on a statement made in the Wireless OII. In this regard, the OII stated that:

"One way of assessing the value of spectrum for mobile telephone which may be much freer of monopoly power value "contamination" is to look at the sale prices of SMR licenses that are being converted to public telephone use. While a rough indicator, the price that an additional market entrant is able and willing to pay to acquire SMR spectrum may approximate the value of cellular spectrum." (P. 22) (Emphasis added.)

McCaw derives a value representing SMR spectrum inferred from the acquisition by MCI of a 17% interest in Nextel, assuming this is a correct proxy for "uncontaminated" cellular spectrum value. Yet, as McCaw, itself, recognizes, the OII's statement is merely a "suggestion," not a tested prescription for determining cellular spectrum valuation. The OII's suggestion that SMR spectrum values may be a closer approximation of "uncontaminated" spectrum value does not imply Commission endorsement for using the SMR price as a straight substitute for a reasonable cellular spectrum valuation. As the OII warns, the SMR spectrum value is a "rough approximation." Before meaningful conclusions could be drawn regarding "uncontaminated" spectrum value based on pro forma cellular rates of return adjusted for SMR proxy spectrum values, a much more involved analysis of the factors underlying cellular spectrum value would be required. The difficulty in quantifying a proper value for cellular spectrum and the impetus not to undertake such a resource-intensive study is one of the factors leading us to reject cost-of-service regulation as a viable option for cellular carriers.

Moreover, even if the prices paid for SMR spectrum were assumed to constitute a correct reference point for "uncontaminated" cellular spectrum, it is not clear that McCaw's representation of a value of \$42 per POP is necessarily ascribable only to SMR spectrum. McCaw derives the \$42 value for SMR by subtracting the value of Nextel's tangible assets from the total capitalization of the corporation implied in the MCI transaction and then dividing by the number of POPs served by the Nextel System. McCaw thus assumes that all MCI acquisition cost in excess of tangible assets constitutes payment for SMR value. Without further analysis of the terms and conditions of the MCI transaction, we cannot confirm whether there may be other intangible strategic benefits implied in the value paid by MCI for its ownership interest. For example, while McCaw states that MCI paid no control premium with only a 17% interest, MCI may have expected to realize some strategic advantage relative to later investors and incorporated this into its payment premium.

McCaw's adjustment of the SMR value of \$42 per POP up to \$100 per POP for the equivalent cellular spectrum is likewise questionable. McCaw bases this adjustment on the premise Nextel typically holds less than half the bandwidth of a cellular carrier. Yet, as discussed previously, we have concluded that control of a certain bandwidth is not necessarily an accurate criterion for defining a carrier's market dominance. Many factors affect the price per POP besides bandwidth including the USE to which the spectrum is to be put and market conditions. Thus, we cannot accept the adjustment from \$42 to \$100 per POP as a supportable translation from SMR to cellular spectrum value.

Yet, for arguments sake, even if we accepted McCaw's hypothetical equivalent market value of \$100 per POP for cellular after adjusting for the bandwidth difference relative to SMR spectrum, we still find that the actual value investors are willing to pay for cellular spectrum, using McCaw's own figures, is double

the \$100 value that McCaw would equate to "uncontaminated" spectrum, or \$200 per POP. McCaw fails to explain what, other than expectations of higher future earnings from duopolistic market power, would induce an investor to pay twice the amount for cellular spectrum relative to the same bandwidth equivalent of SMR spectrum.

McCaw also bases its rate of return calculations on the annual reports filed with the Commission by cellular carriers. Yet, the returns computed in these reports are simply predicated on the invested partnership capital as reported. Such reported returns fail to account for the financing source of the underlying partnership capital contributions. To the extent the corporate partners use leveraged funds to finance the cellular partnership, the actual equity funds invested would be only a fraction of the total partnership capital. This means that the actual leveraged return realized by the individual partners would be greater than the reported return in the annual reports. McCaw fails to account for this in its calculations.

As a result of concerns such as these, we cannot accept McCaw's hypothetical pro forma earnings calculations as evidence that no excess earnings exist due to cellular carriers' protected market status. Rather, we find the disparity between the \$100 per POP value resulting from McCaw's own calculations of "uncontaminated" spectrum value and the \$200 per POP market value actually paid for cellular spectrum, if anything, to support a finding of excess cellular profits relative to SMR.

We also find that the Q-ratio analysis of cellular earnings presented in Hazlett's paper offers additional persuasive evidence that cellular profits far exceed any reasonable expectations of a competitive industry. Even allowing for the potential for error in Hazlett's specific calculations, the sheer magnitude of the difference between the cellular industry and other investments is enough to dramatize the point. As Hazlett notes, no

industry examined in a recent Brookings Institute study of 20 U.S. industries was found to exhibit a Q ratio of 3.32 during the 1961-85 period. By comparison, the cellular telephone industry ranged between 6.68 for small firms up to 13.52 for large firms. Although the sampling of cellular firms was from throughout the U.S., we consider the statistics relevant to our study of California firms, particularly since the L.A. and S.F markets are among the highest in the nation.

The fact that cellular licenses incorporate duopoly rents in excess of scarcity value is further borne out by the independent opinion of Wall Street analysts. As a 1991 Morgan Stanley report advised investors:

"Investing \$170-\$200 per pop, or more--a valuation that many analysts suggest is warranted--in a business that requires hard assets of less than \$20 per pop is justified only if there are enormous returns, and such returns are possible only in an unregulated monopoly or shared-monopoly business.<sup>14</sup>

Likewise, a major cellular carrier, LACTC, while discounting the significance of earnings measures in its comments filed in this Investigation, acknowledged that high profits underlying its license value are indicative of market power in a separate 1990 property tax proceeding before the State Board of Equalization. LACTC's expert witness testified in that proceeding as follows:

"[C]ompanies in a competitive industry have no particular or material license value. If the market for cellular telephone

<sup>14</sup> Edward M. Greenberg and Catherine M. Lloyd, Telecommunications Services, POP Out: The Changing Dynamics of the Cellular Telephone Industry (New York: Morgan Stanley; April 1991, (cited on p. 15 of Hazlett Paper/Nationwide Cellular Comments.

services was perfectly competitive, it would be open to all sellers willing to make the required investment...Under competitive circumstances, therefore, any license value would be essentially zero.

"The ...cellular telephone [market] ...is a special form of monopoly or oligopoly called a duopoly. The situation is the result of the FCC limiting to two the number of cellular telephone companies (sellers) in each SMSA...From the licensee's point of view, a license is valuable because it gives the holder some control over its market.

"It is necessary to understand how the bidder would determine the price or the recipient would determine the value of the FCC license being acquired. In either case, one would calculate the earnings from the business which can be generated under the monopoly condition. These earnings would be greater than ...under the competitive market structure and ...associated solely with the ownership of the FCC license."<sup>15</sup>

**b. Conclusion**

Based upon the factors considered above, we conclude that the earnings levels experienced by cellular carriers in the major California markets are indicative of a failure to compete effectively. The studies conducted by federal agencies and by market analysts indicate that prices would drop with increased entry into the cellular market, thereby implying that existing prices are higher as a result of restrictions on competitive entry.

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<sup>15</sup> "Declaration of Arthur A. Schoenwald in Opposition to Defendant's Motion for Summary Judgment and Summary Adjudication of Issues," in Los Angeles Cellular Telephone Company vs. State Board of Equalization, et al., No. 509737 Superior Court, Sacramento, California (30 April, 1990), pp. 24, 25, 27.

**5. Should Wireless Services Be Considered as Either the Equivalent of Basic Service or as Part of Basic Service?**

In the OII, we solicited parties comments on the relationship of wireless service to basic landline telephone service. Several parties find wireless service to be either ubiquitous or a replacement for landline service. McCaw believes PCS will be nearly ubiquitous in the near future, given the FCC requirement that licensees offer service to 90% of the population within 10 years.

DRA considers wireless to be discretionary, not a basic service. A number of cellular carriers agree with DRA that wireless service should not be included as basic service but is discretionary. They point to the market penetration rate of only around 5% as evidence that wireless service is nowhere near universal or essential to the public at large.

The County of LA argues that cellular services should not be considered discretionary, but as a complement to landline service. The County cites the testimony of a PacTel witness in I.93-02-028 that "cellular is largely a complement to landline usage, not a substitute." (Testimony of Jerry A. Hausman, I.93-02-028 at 6.) The relatively low market penetration rate of wireless service is likely far more the result of excessive pricing of such services than due to any discretionary attributes, according to the County. The County believes that cellular services are affected with the public interest, and play a crucial role in supporting a broad range of government functions, including many types of emergency response situations. The County disputes carriers' claim of any significant cross-elasticities of demand between cellular and landline telephone usage. For example, if a customer is forced to pay \$1.00 for a cellular call that might cost 5 cents from a landline phone, the fact that the cellular call is nevertheless made implies that for this call, the landline

alternative is not a substitute. The County believes that government agencies are subjected to excessive monopoly prices for an essential service which interferes with goals of assuring public safety with the use of cellular communications. Even if cost-based unbundling is not authorized for other users, the County advocates that governmental agencies should be offered lower cost-based rates given the public interest role played by cellular in supporting governmental functions. Public Advocates, Inc. representing various minority, low-income, and disabled groups, asks the Commission to put in place universal service policies to ensure access by these groups to the growing wireless network.

#### Discussion

While wireless service has been growing dramatically over the past decade and is finding an increasing variety of uses, we conclude that it is still not a basic service equivalent to landline telecommunications service at the present time. Depending on the rate of market penetration, technological development, and affordability of service over time, its status as a discretionary service may change in the future. We shall consider in the next phase of this investigation what policies, if any, should be adopted to protect interests of government agencies or minority groups.

### **V. Adoption of Limited Interim Changes in Cellular Rules**

Although we shall defer full implementation of a comprehensive regulatory framework to a subsequent phase of this investigation, we have identified certain limited issues that can be resolved at this time based upon the information currently before us. We address these issues below.

#### **A. Extent and Duration of Oversight Over Cellular Duopolists**

Having established that continuing oversight of dominant cellular duopolists is necessary, we now consider what appropriate

regulatory oversight measures should be adopted. As previously discussed, the OII proposes a two-tier regulatory approach based upon whether a carrier is classified as dominant or nondominant. We conclude that our proposed dominant/nondominant framework provides an appropriate vehicle for development of regulatory oversight of mobile service providers. Respondents expressed little or no disagreement over the limited registration and complaint resolution procedures for nondominant carriers as described in Appendix B-Section C of the OII. We find those procedures appropriate for nondominant carriers.

As discussed above (Section IV.C.1), only facilities-based cellular carriers can be considered dominant at this time. The question remains as to what sort of oversight is appropriate for dominant carriers and for what duration. We defer to a separate phase of this investigation the appropriate criteria for reclassifying dominant carriers to nondominant status. As set forth in Section III.E of the OII, three options were suggested for regulation of dominant carriers. These options were: (1) Price Cap at Current Rates; (2) Cost-based Price Cap; and (3) Relaxed Regulation.

Under the "relaxed regulation" option, we would lift existing price caps and allow carriers to raise or lower prices without CPUC review or approval. Some form of limited oversight, might be retained, for example, of consumer fraud issues or authority over siting of cellular facilities. We could also simply allow regulatory preemption by the FCC to occur.

Given our analysis of cellular duopolists market dominance as discussed previously, we consider the "relaxed regulation" option to be premature at this time. The lifting of price caps would remove even the limited protections that currently restrain duopolists from charging rates even higher than currently exist for bottleneck services. Until the market becomes more competitive, we shall continue to impose price caps on dominant

carriers in order to protect consumers from unreasonable rate setting practices. The remaining question is what form the price caps should take. The OII poses two options for setting price caps: (1) use of existing rates or (2) a cost-based price cap.

The first option mirrors our existing framework for cellular carriers, but also clarifies the status of new entrants as non-dominant and not subject to price caps. Additionally, the OII proposal would provide for a mechanism for the relaxation of regulation when effective competition exists. This approach does little to actively lower rates, but relies instead on new entrants to place downward pressure on rates. Carriers who do reduce prices, however, would be permitted to raise them again up to the price cap without regulatory approval. Margin requirements would remain in place to prevent "anticompetitive squeezes" of independent resellers.

The other option suggested in the OII to regulate cellular carriers is a cost-based price cap. Under this option, the Commission would initiate a proceeding to determine a standard operating cost for cellular carriers and a market value for spectrum for each geographic area and an appropriate rate of return. Cost accounting allocations to separate retail from wholesale operations would also be addressed to avoid cross subsidization. We would draw upon the record previously developed in Phase III of I.88-11-040 to develop such cost allocations. An initial "true up" of rates would then be made based on the resulting revenue requirement adopted by the Commission. Cellular rates would become capped at this level, subject to a possible indexing mechanism. An index reflecting economy-wide price changes and perhaps adjustments for productivity improvements and exceptional events could be used.

**1. Positions of Parties**

The cellular carriers oppose price caps. First, they challenge the premise that underlying the rationale for price caps,

namely, that the industry is uncompetitive. This argument has already been rejected as discussed above. Carriers are especially opposed to cost-based price caps. They argue that federal preemption prevents implementation of cost-based price caps. The carriers claim that under Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 (the Budget Act), states can petition to stay federal preemption only of rate regulation in effect as of June 1, 1993. Thus, the carriers argue that the Commission has no authority to impose any part of the proposed additional rate regulation measures described in the OII. Under the carriers' interpretation neither of the price cap measures set forth in the OII would be considered as "existing regulation" which was in effect on June 1, 1993.

The carriers further argue, however, that implementation of cost-based price caps would be a very complex, inefficient, and arbitrary undertaking, requiring an extensive expenditure of time and resources which would outweigh any purported benefits to be realized. By the time such proceedings had concluded, the carriers believe competitive markets would develop and the proceedings would produce obsolete results which would be rendered moot.

DRA agrees with the carriers that implementation of true cost-based price caps would require tremendous resources from all parties and would delay implementation of any unbundling requirement until the next century. Thus, while DRA does not endorse the cost-based price cap proposed in the OII as an immediate measure, DRA does endorse adoption of a price cap at current rates on a modified basis. DRA first notes that the OII's price cap proposals seem to apply only to wholesale usage rates. Yet, DRA argues that price caps must also apply to wholesale activation fees and access charges, as well. Otherwise, carriers could simply increase these latter charges to recoup any lost revenue from usage rate caps. DRA proposes that wholesale rates be capped at current levels minus the cost of access and

interconnection to the landline network. DRA states that the only factual evidence lacking for implementation of this modified price cap proposal is the actual landline and access interconnection costs of each carrier. Since these charges are negotiated and set out in contracts between the LEC and the cellular carrier, they should be relatively easy to identify. DRA proposes that dominant carriers and LECs be ordered to provide such cost information to all parties. DRA advocates that the price cap be adjusted only for an inflation index. Wholesale rates could not otherwise exceed price caps unless the Commission ordered a new investigation.

While a price cap at essentially current wholesale rates still imbeds duopolistic rents, DRA believes it offers a better overall solution than does the cost-based cap approach. DRA views its proposal as offering the opportunity for unbundling to occur without undue delay. By contrast, DRA believes it could delay implementation of rate unbundling for years if the Commission were to wait until it had completed detailed cost studies.

The carriers criticize DRA's price cap proposal to subtract the cost of access interconnection costs from wholesale rates as being arbitrary and without any factual basis. The carriers argue that DRA's unsupported conclusions require further examination through evidentiary hearings.

Resellers support the OII proposal for cost-based price caps. They argue that such price caps are needed to remedy the current overpricing of bottleneck services which include significant duopoly rents. They also propose that the accounting modifications to the Uniform System of Accounts (USOA) for cellular carriers as set forth in Appendix B to D.92-10-026 be reinstated and adopted in this proceeding. They contend that the USOA modifications which provide for allocation of costs between a carrier's wholesale and retail operations are needed to avoid cross subsidization and preferential pricing. CRA believes that concerns over the expenditure of time and resources required to undertake

cost-of-service studies can be mitigated by establishing priorities. For example, CRA recommends that the Commission give highest priority to unbundling and cost-basing the rates of the cellular markets in the two largest markets, namely the L.A. and S.F. areas. Second priority could be given to establishing cost-based unbundled rates in adjacent areas and other markets where carriers' returns appeared excessive.

## 2. Discussion

We conclude that price-cap regulation is appropriate as part of our new regulatory framework during the interval until competition is sufficient to self-police the industry. Absent price caps, existing restraints on cellular rates would be removed, and rates may climb even higher. We recognize, however, that institution of cost-of-service studies is not a practical solution as way to derive cost-based price caps. As stated in the OII, we are extremely sensitive to the issue of implementation in considering the cost-based price option. We conclude that the expenditure of time and resources involved in embarking on cost-of-service studies would be excessive compared with the expected benefits. As explained by the carriers and DRA, such an undertaking would require resolution of complex questions such as how to incorporate spectrum value into the carrier's cost structure, and would be very time-consuming. Moreover, although we do not expect a competitive market to develop in the near term, competition could become a reality by the time required to complete detailed cost studies and to true up cellular costs. By that time, a cost-based price cap structure could become obsolete.

Likewise, we decline to reinstate the proposed USOA modifications which were initially adopted in D.92-10-026 but deferred for further consideration in this investigation by D.93-05-069. Our rationale for declining to adopt those USOA changes was stated in D.93-05-069, Ordering Paragraph 3b:

"In D.90-06-025 (the Phase II Decision), we stated our intent to exert direct monitoring and control of cross-subsidization on the part of wholesale carriers. To that end, we directed that in Phase III, we would modify the [USOA] to incorporate methods of cost allocation between the carriers' wholesale and retail arms, for the specific purpose of policing predatory pricing. The basis for that policing, we said, was avoided cost....

"However, technological change has been great since we issued the Phase II Decision...The impending entry of competitive non-cellular alternative carriers into the mobile telephone market will result in deep changes to the competitive aspects of the industry.

"As a result of these changes, we hesitate to implement any USOA modifications at this time...Putting modifications in place would require much time and resources from the carriers and also from the Commission Advisory and Compliance Division (CACD), which would be charged with the responsibility of reviewing the reports and with other monitoring duties.

"Accordingly, we will reexamine the question of whether the potential for cross-subsidization will continue to be a problem, and the best method of controlling it, in the course of an investigation to be issued...[i.e., this OII]. (Pp. 12-13.)

We believe that the ability of cellular duopolists to engage in predatory pricing will ultimately be eliminated through the emergence of a competitive marketplace. In the interim period until competition creates a self-policing constraint, we recognize that the potential for cross-subsidization and anticompetitive behavior still exists. Nonetheless, the best solution is not to expend scarce resources in implementing detailed, time-consuming cost studies as discussed above. Rather, the best balance of interests and resources can be achieved through an approach with a more market-based perspective. Our solution is to adopt a program

of wholesale rate unbundling based upon prices capped at existing rate levels.

Before we adopt final rules, however, for a wholesale price cap policy, further consideration is warranted. We will consider in a subsequent phase of this investigation options for adjustments to existing price caps to restrain potential duopoly market power abuses while avoiding the need for cost-of-service studies. Potential options include further consideration of DRA's proposal as well as other alternatives. For example, we may also consider ways to adjust price caps referenced against excessively high rates of return of carriers.

For purposes of this interim order, we will retain our existing rate band pricing guidelines which cap rates at existing levels subject to downward flexibility. Increases above capped levels require cost documentation as specified in Ordering Paragraph 9 of D.90-06-025.

Although we are deferring adoption of final rules for adjusting price caps at existing rates, we need not defer implementation of wholesale rate unbundling. In the following section, we address the issue of unbundling.

**B. Market-Based Unbundling of Radio Links**

As stated previously, the federal licensing of only two facilities-based cellular carriers in a given market places control of the radio "transmission bottleneck" into the hands of just those two carriers. We set forth our policy in the OII that the radio transmission spectrum controlled by duopoly carriers should be made available on an unbundled basis separately from all other aspects of services they offer. Doing so would minimize the scope of the market bottleneck created by the duopoly structure for cellular licensing. In this way, the market power of existing cellular duopolists may be reduced, and competitive firms will be afforded an expanded opportunity to provide added value to cellular

consumers through more efficient or innovative landline network design and operation.

As set forth in our "Proposed Policies" in the OII-Appendix B.3, each dominant carrier would be required to unbundle the cell site radio segment of its operations from all landline network functions and ancillary functions for tariffing purposes. The listed functions to be unbundled included MTSO functions, backhaul from cell site antennas, telephone numbers, billing services, enhanced services, and other landline local or toll services.

We solicited parties comments in the OII as to the appropriateness of unbundling if the market is to become competitive in the future. We also sought input on how, if adopted, such unbundling should occur with special emphasis on costing and pricing issues. We expressed concern that to the extent that unbundling requires cost-based regulation, it may be incompatible with other regulatory framework options from which we might choose.

1. Positions of Parties

Cellular carriers attack the need for unbundling, arguing that it is premised on the existence of bottleneck facilities which they allege do not exist. They contend that bottleneck facilities require monopoly control of essential facilities. Yet, in the case of cellular, there are two carriers which control the facilities, hence, no bottleneck. Moreover, the carriers contend that the Commission has no legal authority to implement unbundling in light of FCC preemption and potential conflicts with federal standards.

Notwithstanding their disagreement with the premise that a bottleneck problem exists, cellular carriers further criticize the proposed unbundling plan outlined in OII Appendix B as being difficult, if not impossible, to administer. Concerning the list of functions outlined in Appendix B to be unbundled from the "radio transmission function," LACTC states the listing includes items

which are either technically "unbundleable" or which are already unbundled. LACTC claims that nothing in the record made in I.88-11-040 suggested that any significant MTSO or backhaul functions could be taken over by resellers. LACTC also disputes the statement in the OII that most of the "cellular network" mimics the local telephone network of a conventional local exchange carrier.

LACTC contends that resellers would not be able to take over the registration and validation functions performed by the MTSOs. While the reseller could record billing information in real time, LACTC argues that this would be superfluous since the carrier would still have to keep the same information for its own billing and technical purposes. Any doubling up by resellers of functions which must be performed in any event would add up to four seconds of processing time to each cellular call, according to the testimony in I.88-11-040. Thus, the most feasible point of contact between resellers and the MTSO is at some point between the MTSO and the rest of the network. At such a point of interconnection, the reseller switch could perform billing and other enhanced services mentioned in the OII. Yet, LACTC states that such services are already unbundled or could be unbundled at the request of any third party without any need for further Commission action.

McCaw argues that the Commission should not adopt a cost-based unbundled rate structure. Aside from legal and policy objections, McCaw contends that a cost-based structure would be exceedingly difficult to implement for competing cellular carriers which often have dramatically different costs. The necessary studies to implement such a system have never been done, and the procedures would need to be established by a federal/joint board pursuant to Section 410(c) of the Communications Act of 1934.

The cellular resellers (CRA and CSI) endorse the CPUC's proposed unbundling of wholesale tariffs. CRA cites Conclusion of Law 15 in D.92-10-026 that "The facilities-based carriers' rates