

## **VIII. Rate Rebalancing, Commission Issue No. 7**

**Q. Does the definition of TSLRIC in the Hawaii Administrative Rules allow for the inclusion of loop costs?**

A. No. According to the Hawaii Administrative Rules, "The cost of joint facilities, including loop costs, are excluded in calculating the incremental cost." [Section 6-80-4.]

**Q. Would you please elaborate on the Company's apparent inclusion of all loop costs in the TSLRIC of local exchange service?**

A. Certainly. For more than 15 years, interexchange carriers have advanced the argument that the joint costs of local networks (e.g., the loop costs) should be entirely the responsibility of local ratepayers. Although this argument has rarely been accepted by regulators, as market conditions have evolved, some parties have continued to recycle these arguments, by adapting them to fit changing conditions. Prior to divestiture, the argument was that toll competition was increasing and thus local rates needed to be increased while toll rates needed to be reduced. In the mid-1980s, the theme was amplified and repeated throughout the country, with an emphasis on the potential effect of the divestiture. It was even implied that unless local rates were dramatically increased at the time of divestiture, disaster would befall the LECs. Local rates were not increased as much as requested or predicted, and events subsequently proved the argument to be false. LEC profits remained strong "bypass" never grew as rapidly as predicted, and in most markets the LECs enjoyed strong growth in their switched access service, despite the fact that rates were not reduced as much as the IXCs had sought. Not only has history proven this argument false, it is inherently inconsistent with both economic theory and common sense.

**Q. What is the basic fallacy in this reasoning?**

A. By such reasoning the local exchange networks are preexisting entities for which the LECs and their subscribers are responsible and to which interexchange carriers more or less incidentally connect in the course of completing long distance calls. In this view, the cost of the local

subscriber's loop, drop wire, line card, and channel connection should be considered exclusively part of the incremental cost of local exchange service, as distinct from the cost of providing switched access and other categories of service. If that is the case, then it is supposedly wrong for the LECs to charge more than direct economic cost for switched access service.

However, the loop costs are actually joint costs necessary for the provision of toll, access, and custom calling service, as well as local exchange service. Except when congestion is present, there is no trade-off between these joint uses. In other words, when an additional access line is installed, it simultaneously increases the intermediate output (access) available to both toll and local markets (as well as the market for other services, such as custom calling).

Even if a line is intended strictly for local calls, it can also be used to place and receive toll calls, and vice versa. Accordingly, local loops are analogous to cattle feed in the production of steaks and leather coats. Even if feed is strictly intended to increase the amount of available beef, it concurrently increases the amount of hides which are available. Of course, since an intermediate product is involved, there is no assurance that quantities of the final products will be produced in exact proportion to the quantities of inputs.

In other words, an increase in cattle feed will not necessarily increase the number of leather coats which are produced, if the hides are thrown away and never converted into coats. Similarly, the addition of another access line will not automatically increase the number of toll or local calls, nor will the volume of the final products (completed calls to various locations) increase in strict proportion to the addition of another access line. However, there is nothing startling about this situation; in a similar way, hamburger production does not vary precisely with the number of leather coats.

Any confusion in this regard can be eliminated by further disaggregation and study. Simply stated, completed toll calls typically involve three or more intermediate steps: use of two access lines, one or more switches, and one or more interoffice trunks. In turn, some of these components can be used only for local purposes, some only for toll, and others for both purposes. Because of congestion, inter-office switching and trunking typically involves either direct costs (when the item is dedicated to one market or the other) or common costs (when

the item is shared but increased use in one market displaces usage in the other market). The access line is obviously either a joint or a common cost, since it serves multiple markets. I believe it can most accurately be viewed as a joint cost, in the typical situation where the line is not highly congested and use in one market does not preclude use in the other market.

More specifically, the provision of an access line yields at least two joint products: access to customers within the same locality (local access) and access to customers within other cities (toll access). Since the latter form of access is provided via toll carriers, one can think of the access line as providing access to local and toll networks. Of course, since communication is generally two-way, we can also say that two other joint products are provided, as well: access to the customer installing the line by other customers within the same locality, and access to that customer by toll carriers and their customers.

To assign the entire amount of these joint costs to local exchange is not valid, and the resulting total cannot meaningfully be arrayed beside the revenues derived from basic local exchange service. The Company has many revenue sources which help cover these joint costs, including toll, switched access, and custom calling. There is no logical reason why competitive local carriers will be unable to draw upon these same revenue sources, in order to pay their loop costs, and compete with the incumbent. The loop facilities used in providing local exchange service are also required for (and used by) other services that both the incumbent and competitive local carriers will continue to provide--including interstate switched access, intrastate switched access, intrastate toll, custom calling, and Caller ID service. The poles, cable, drop wire, line card, and channel connection are equally required for the provision of these other services, and there is no logical reason to impose the entirety of any or all of these costs onto just one of the services benefiting from them.

Generally, when a customer is connected to the public switched network, that customer is provided with access to the other lines situated within the same city, but access is simultaneously provided to the toll carriers with points of presence in that city; and via their facilities, access is provided to millions of lines located in hundreds of other cities around the state and country. It makes no economic sense to impose the entire cost of the access line, as part of the price of local service, on the particular end user who requests installation of the line.

Rather, it is appropriate to recover the cost from all of the beneficiaries of that line--including the other local customers in that city and the toll carriers that also benefit from the new line, whether directly or indirectly.

**Q. Is it necessary to increase the price of local service in order to reduce the price of toll service?**

A. No. As Mr. Dunkel demonstrates in his testimony on access charge reform, it is possible to recover the NTS costs of toll service through appropriate charges to toll carriers, and thus there is no need to shift these costs to the local exchange category. There is no reason to assume that one set of prices must increase in order to make possible reductions in the other set of rates. To the contrary, competitive pressures are likely to place downward pressure on both local and toll prices. Admittedly, in many jurisdictions the trend in toll prices has been more sharply downward than the trend in local prices. However, this undoubtedly reflects differences in the degree to which the two markets have been opened to competition. As a result of the 1996 Telecom Act and other factors, competitive pressures in both local and toll markets may soon equalize. The result may be downward pressure on both toll and local prices, with no justification for, or need to accept, sharp upward movement in local rates.

To the extent toll rates drop more rapidly than local rates, some convergence can be expected. However, there is no reason to assume that the convergence will be extreme, or that the distinction between long distance and local markets will disappear over time. Historically, the industry has maintained a sharp distinction between local and toll markets; I believe this distinction continues to have merit, and it should not be eliminated or reduced by regulatory fiat. It is sometimes argued that this distinction is arbitrary, or that it will be hard to maintain and police such differences in an increasingly competitive environment, because different competitors will offer different local calling areas and different service packages. While I agree that competitors will experiment with a variety of different types of pricing, I reject the view that the existing distinctions are arbitrary or artificial, or that they will necessarily disappear as the industry becomes more competitive.

A distinction has been maintained between local and long-distance traffic for this entire

century, and it is both feasible and appropriate for the Commission to continue this distinction during the transition to competition. It is feasible because separate treatment can be accomplished by a variety of different administrative mechanisms, including mandatory reporting requirements, whereby each carrier reports its traffic mix, (and is subject to auditing by connecting carriers). To some degree, the mix of local and toll calls can also be verified through the use of inter-switch communication linkages, such as SS7, which can often pass along the originating phone number.

Maintaining the local/long-distance distinction is also appropriate. Granted, from a cost standpoint, the place of origination is largely irrelevant to the terminating local carrier. However, in terms of value, there is a significant difference between local and long distance traffic. Due to customer perceptions, as well as longstanding historic pricing patterns, long-distance traffic generates significantly more revenue per minute than local traffic. In turn, this suggests that the termination of local traffic is not as valuable, and should not be priced as high, as the termination of long-distance traffic.

This difference in value, or relative strength of demand for local and long distance call termination services is particularly significant since both local and long distance calls are originated and terminated over the same loop. As I previously testified, the loop is economically similar to cattle feed. When feed is increased, the possible output of both hamburger and leather increases. Like cattle feed, the jointly used loops are part of the intermediate, rather than final, stage of production. Telephone subscribers are primarily interested in placing long-distance and local calls, rather than in "consuming" access lines; thus, the access line is an intermediate input necessary for the final joint products, local and toll calling. (Likewise, most retail customers are interested in buying hamburger or leather coats instead of a cow.)

Given the joint nature of the subscriber loop facilities, and since these joint costs are not caused by increases and decreases in traffic volumes, a pure usage factor has little or nothing to do with the level of loop costs. By definition, once these costs are incurred in order to carry one type of traffic, the facilities in question are costlessly available to handle the other type of traffic as well. Accordingly, there is no reason why the loop costs should be recovered in uniform proportion to traffic volumes.

In competitive markets, joint costs are recovered in a manner which recognizes the relative strength of demand for the joint products that make use of the joint element of production. In those markets, purchasers of each of the joint products bear some share of the joint costs, with the relative shares being determined by the relative strength of demand in the various markets, considering the value of the final product, the availability of substitutes for that product, or alternative means of producing that product, and the like. In essence, cattle producers will tend to price raw meat and hides in a manner that ensures that each product provides the maximum feasible contribution to the joint costs of cattle feeding within the market constraints imposed by each product's demand.

For instance, in the classic example of beef and hides, purchasers of leather goods will bear a relatively large share of the joint costs of feeding the cattle if the demand for leather products is strong and the demand for meat is weak. But leather coat buyers will obviously not be required to shoulder 100% of the feed costs and consumers of beef none of them, as there is also a considerable demand for beef.

While relative usage is one measure of relative strength of demand (since heavier users tend to derive greater value from the network), all minutes are not equivalent. In a competitive market, costs would not be recovered based upon a uniform per-minute approach, since that would not adequately recognize the relevant factors that influence the value of each product or service, and thus the relative strength of demand for that item. While not a perfect analogy, consider the example of dairy products. Cream does not carry the same price per fluid ounce as whole milk, while skim milk will have still a different price. The relative prices of the various dairy products depends upon market conditions, and more specifically the relative strength of demand for each of the various products.

Analogously, it is not unreasonable for a local exchange carrier to charge a connecting long distance carrier a substantial fee for the right to complete outgoing calls, without a reciprocal fee imposed in the opposite direction. In other words, asymmetrical pricing arrangements between long distance and local carriers are reasonable, and are not inconsistent with a competitive market outcome, because of the great differences in perceived value, and market demand, that distinguish long distance usage from local usage. Stated another way, one

can reasonably expect IXCs to pay local carriers for the right to interconnect, but not vice versa.

Similarly, if an incumbent LEC were to charge other carriers as much per minute to process and complete a call that originated down the block as it charges to complete a call that originated in California, the LEC would be completely ignoring the underlying differences in value, as well as the associated differences in revenues per minute (and resulting differences in their respective ability to pay). In a competitive market one would not be surprised to see the monthly payment for long distance service to be higher than the amount paid for local service, even if the latter category involved more traffic. Such an outcome would be reasonable, if the longer haul service is perceived to be inherently more valuable than the shorter haul service.

**Q. If some retail local exchange rates are less than the wholesale cost of an unbundled loop, will this preclude competition from emerging in local markets?**

A. No, not necessarily. If the price of local service is paired with a cost analysis which includes all the joint costs of local switching and local loops, and if the analysis ignores all other sources of revenues that are available to local carriers to help pay these joint costs, the appearance is created that a huge shortfall, or "subsidy" problem exists. Under this sort of misleading analysis, it will seem that a price squeeze exists, and competitors will be unable to enter local markets. In reality, however, new entrants can anticipate several sources of revenue when they sign up a customer, in addition to the basic local rate. If the new carrier accurately studies its costs, and matches these costs with a realistic estimate of all the various revenues that will be available to offset these costs, there is no reason to assume a price squeeze will exist, or that competitive entry into residential markets will be impossible.

**Q. Could high cost areas exist in which the current level of revenues may not be sufficient to cover loop costs, even after consideration of all the various sources of revenue?**

A. Yes, this is a possibility. To the extent a problem exists with "high cost" areas in the state, this can appropriately be addressed through support mechanisms, such as those contemplated in the federal *Universal Service Order* and Chapters 6-81-52 and 6-81-56, H.A.R., which allow

for distribution of funds to the carrier providing service in designated high cost areas. Once a mechanism of this type is in place, the relevant question becomes whether the available revenues from local, toll, custom calling and other services, together with the high cost support payments, are sufficient to cover the relevant costs of providing service in these high cost areas.

**Q. Are there logical reasons, even if they are not in the public interest, why the Company would seek to rebalance its rates?**

A. Yes. While it is clear that competition produces many benefits--increased customer choice, increased pressures for maximum efficiency, etc.--it should also be recognized that it can have negative effects on the incumbent carriers and their captive customers, at least over the short term. For one thing, competition slows the incumbent's growth rate as its market share declines, reducing the benefits of economies of density and scale, and the growth in revenues and profits just discussed. Furthermore, competitive pressures will tend to be strongest where margins are perceived to be the highest and/or barriers to entry are the lowest. These factors tend to create strong incentives for the incumbent carrier to reduce prices in the markets where margins are high, or barriers to entry are low, or both. Conversely, where competitive pressures are weakest, either because margins are lower, or because barriers to entry are higher, or both, the incumbent may attempt to *raise* prices. That is, the unevenness of competitive pressure may encourage the incumbent carrier to make an effort to "rebalance" its rates in an effort to sustain profitability in the face of price reductions in the more competitive markets. One of the most significant features of most systems of reduced regulation is that the carrier is given greater freedom to engage in such rebalancing of its rates. The extent to which this occurs will depend in part on the amount of pricing freedom the firm is given under the particular plan that is adopted, and it will depend in part on the extent to which the Commission is able to reduce barriers to entry in various markets.

Assuming barriers to entry persist in some areas, prices will likely rise in those areas, unless the Commission acts to prevent it. Consider, for example, the situation where new carriers will incur relatively high average costs if they attempt to enter smaller markets, because the market isn't large enough for the carrier to gain the benefits of economies of scale and

density. In this situation, new carriers will be less likely to enter the smallest markets. The problem is most acute in rural areas and for very small carriers (e.g., a 5 percent market share).

In such circumstances, the incumbent may have an incentive to increase its prices in these markets, perhaps stopping just short of the point where it estimates a potential entrant's average costs would be. This is sometimes referred to as entry-detering pricing (maximize profits subject to a constraint of not enticing competition into the market). Simply stated, without regulatory constraints and without effective competition, if the incumbent is free to charge "what the market will bear," it will have an incentive to greatly increase rates in rural markets relative to urban markets, where barriers to entry are lower.

**Q. Is it necessary to reduce toll and access rates in order to eliminate the claimed high toll "contribution" and eliminate a "subsidy" to local?**

A. No. Large mark-ups, or contributions above direct cost, are quite typical in this industry, due to the presence of joint and common costs, as well as the existence of economies of scale, scope and density. Many other services, including basic local exchange, also provide large contributions in excess of their direct economic costs. This is demonstrated by the TSLRIC study described by Mr. Dunkel in his testimony. In his study, the direct cost of providing basic local exchange service was estimated to be less than **[begin proprietary \*\*\* \*\*\* end proprietary]** per month. Since the local exchange rates cover this cost many times over, it is clear that local service is not being subsidized by switched access or toll service, and that local service provides a substantial contribution to joint and common costs.

Sometimes, the difference between the direct (or incremental) cost of a service and the revenue it provides is identified or described as a "subsidy." Thus, for example, it might be suggested that because switched access service is priced well in excess of its direct economic cost, that this service is providing a massive "subsidy" of some other service (e.g. basic local exchange). Any such suggestion is not only prejudicial, it is erroneous. According to the economic literature, a good or service is not being subsidized unless the revenue it generates is less than the relevant marginal or incremental costs of producing it. Therefore, TSLRIC is the accepted test for cross subsidies, as described in H.A.R. §6-80-35:

- (b) Cross subsidization is deemed to have occurred if:
  - (1) Any fully competitive or partially competitive service is priced below the total service long run incremental cost of providing the service.

A service priced above TSLRIC is making a contribution to joint and common costs, and the firm is better off producing it than not producing it, regardless of the pricing or contribution levels of other services. Thus, a service is "subsidized" only if the total incremental revenues it generates are less than the corresponding TSLRIC. Similarly, a service cannot be said to be "subsidizing" other services, unless the price exceeds stand alone cost (not direct or incremental cost). Where the price of a service is between its TSLRIC and its stand-alone cost (the "floor" and the "ceiling"), it is neither subsidizing any other service or being subsidized by any other service.

To date, the Company has not provided any convincing evidence that basic local exchange service is being subsidized by toll or switched access service. To the contrary, the evidence suggests that it is not being subsidized, since local exchange revenues are well in excess of TSLRIC.