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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)	
)	
Implementation of Sections 3(n))	GN Docket No. 93-252
and 332 of the Communications Act)	
)	
Regulatory Treatment of Mobile)	
Services)	

OPPOSITION TO AND COMMENTS ON PETITIONS FOR RECONSIDERATION

Pursuant to Section 1.429 of the Commission's Rules, AirTouch Communications ("AirTouch") hereby opposes the Petitions for Reconsideration filed by the National Cellular Resellers Association ("NCRA") and two California-based cellular resellers filed in the above-captioned proceeding.¹ In addition, AirTouch comments herein on certain other petitions filed in this proceeding.

AirTouch (previously known as PacTel Corporation), is one of the nation's and the world's largest wireless-based companies, with substantial cellular, paging and other wireless interests both in the U.S. and abroad. AirTouch has been an active participant since the beginning of this proceeding.²

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¹See Petition for Reconsideration filed jointly by Cellular Service, Inc. ("CSI") and ComTech Inc. ("ComTech").

²See Comments of PacTel Corporation, filed November 8, 1993; Reply Comments of PacTel Corporation, filed November 23, 1993; and Comments of PacTel Paging, filed November 8, 1993.

Reseller Interconnection Issue

In its Petition for Reconsideration, NCRA initially appears to argue that by enacting the Budget Act³ Congress required the Commission to establish "rules guaranteeing CMRS to CMRS interconnection by a date no later than August 10, 1994."⁴ Later in its Petition, however, NCRA appears to question whether the Commission is actually required to establish new rules regarding interconnection.⁵ In contrast, the two cellular resellers who filed petitions for reconsideration with the Commission in this proceeding clearly recognized that there is no need for the adoption of new "detailed rules" regarding cellular interconnection.⁶ Regardless of whether or not NCRA is actually requesting that the Commission establish in this proceeding interconnection rules for CMRS providers, it is clear that the Budget Act did not establish any new rights of cellular resellers to be interconnected with facilities-based cellular carriers.

In its Petition, NCRA claims, without limitation, that "Section 332(c)(1)(B) requires the Commission to order all common carriers to interconnect with CMRS providers."⁷ To the contrary, the Budget Act's modification of Section 332 explicitly states that, other than to require

³Omnibus Budget Reconciliation Act of 1993.

⁴NCRA Petition at 2 (capitals omitted).

⁵See, e.g., NCRA Petition at 3 (the Commission "appears to assume that rules must be in place to effectuate these [Section 332] statutory interconnection requirements" but that "[t]his conclusion is not self-evident").

⁶See Joint Petition of CSI and ComTech at 16. Instead, those Joint Petitioners suggest that the Commission should, inter alia, "have the parties adhere to the existing framework for interconnection decisions which requires resolution within six (6) months through good faith negotiations..." (Id.). However, as shown below, there is no need or right for such federally mandated negotiations regarding the resellers' request to interconnect a new "resellers switch" to competitive cellular carrier facilities. Therefore, the Commission should summarily reject the request of CSI and ComTech that cellular carriers be subjected to the same interconnection requirements as imposed on the monopoly services of local exchange carriers.

⁷NCRA Petition at 5 (emphasis in original).

the Commission to respond to "reasonable" interconnection requests of CMRS providers, Section 332 "shall not be construed as a limitation or expansion of the Commission's authority to order interconnection... ." ⁸ Therefore, for the same reasons why cellular resellers did not have a federal right to burden facilities-based cellular carriers and their customers with the costs and problems associated with their redundant "reseller switch" prior to the recent modification of Section 332 by the Budget Act, they do not have such rights today. ⁹

In contrast to NCRA's claim, the cellular resellers (CSI and ComTech) recognize that the "new provision [Section 332] does not change the Commission's authority to order interconnection under Section 201..." and that "[t]herefore, the interconnection rights of any CMRS provider -- including cellular resellers -- must be determined under Section 201 of the Communications Act of 1934." ¹⁰ It is clear, therefore, that NCRA is absolutely incorrect when it claims that the Budget Act somehow makes the Commission "statutorily obligated to issue regulations guaranteeing CMRS providers a right to interconnect with other common carriers, including other CMRS providers," ¹¹ and that resellers now have a right to impose their proposed "reseller switch" on cellular carriers and the public.

In support of its interconnection argument, NCRA also requests that the Commission reconsider "its apparent determination that 'CMRS providers do not have control over bottleneck

⁸Section 332 (c) (1) (B) of the Communications Act (emphasis added). See also Conference Report 490 (House Bill).

⁹For a review of some of the adverse technical and economic ramifications associated with reseller switches, as well as the lack of public benefit of such redundant and unnecessary equipment, see "Testimony of Jerry A. Hausman" and "Testimony of Jeffrey Chessher," originally filed by PacTel Cellular in Phase III of I.88-11-040 (Public Utilities Commission of the State of California), attached hereto as Appendix A.

¹⁰Joint Petition of CMS and ComTech at 5.

¹¹NCRA Petition at 5 (capitals omitted).

facilities" because "[f]acilities based cellular providers operate in a duopoly marketplace and thus clearly have control over bottleneck facilities."¹² Not only has NCRA failed to provide the Commission with any new factual basis to reconsider the FCC's finding that cellular carriers do not control bottleneck facilities, but also the Commission's finding is absolutely correct.¹³ Similarly, NCRA's claim that allowing cellular resellers to interconnect their own switches to facilities-based cellular carriers "will promote competition in the cellular industry and improve consumer services"¹⁴ is also flatly incorrect. Rather, as made clear in the detailed testimony of Dr. Jerry Hausman and Mr. Jeffrey Chessher, attached hereto as Appendix A, the reseller switch proposal would neither promote competition nor improve consumer services.¹⁵ In fact, as discussed in detail in that testimony, such reseller switches would be anticompetitive, retard

¹²Id at 8 and 9.

¹³See, e.g., Testimony of Jerry Hausman attached hereto as Appendix A. Cellular carriers do not currently control "essential" or "bottleneck" facilities and, especially with the advent of new PCS carriers, there can be no doubt but that the facilities-based wireless market is truly competitive. Similarly, the discussion of the right of cellular resellers to connect to facilities-based cellular carriers set forth in the Joint Petition of CMS and ComTech (at 7-10) is fundamentally flawed because, inter alia, unlike local exchange carriers and AT&T (at least in 1976) cellular carriers do not control -- and never have controlled -- monopoly telecommunication facilities.

Furthermore, whether non-facilities-based cellular resellers should be classified as either common carriers or CMRS providers for purposes of interconnection is still to be directly addressed. For example, as Commissioner Barrett recently stated "[w]here interconnection obligations with bottleneck BOC LEC facilities are important, I believe the Commission should impose the appropriate regulatory remedy to address this matter. Where there is no issue of interconnection to bottleneck facilities for transport and switching, then I believe there is a higher burden to justify such regulatory requirements between CMRS providers, and between resellers and CMRS providers under Title II." (Separate Statement of Commissioner Andrew C. Barrett, June 9, 1994, CC Docket No. 94-54).

¹⁴NCRA Petition at 9. See also Joint Comments of CMS and ComTech at 6-7.

¹⁵This conclusion is further supported by recognition of the importance of "the evolving nature of competition in commercial mobile radio services generally" that should be "carefully" considered "prior to reaching any final decisions... regarding... interconnection issues with respect to any CMRS provider." (Separate Statement of Commissioner Rachelle B. Chong, June 9, 1994, CC Docket No. 94-54).

investments in facilities-based competitive services (including PCS), result in higher costs, and provide less reliable cellular service to the public.¹⁶

In sum, there's simply no basis in either law or fact to require facilities-based cellular carriers to interconnect with cellular reseller switches, and there is absolutely no basis for the Commission to reconsider its decision on this issue in this proceeding.

Tariff Forbearance

Two parties, NCRA and MCI, have objected to the Commission's decision to forbear from requiring cellular carriers to tariff their interstate services.¹⁷ Contrary to the claims of those two petitioners, the Commission's forbearance decision regarding interstate cellular tariffs was both completely lawful and in the public interest.

Although the legal arguments made by NCRA and MCI regarding this issue are certainly less than clear, their arguments appear to be, in essence, that the Commission cannot forbear from requiring cellular carriers from filing tariffs until such time as the Commission declares that the cellular industry is perfectly competitive.¹⁸ Such a standard is simply not relevant. Instead, as the Commission correctly recognizes, the FCC has the authority to forbear if it finds that such action meets the three part test established by Section 332 (c) (1) (A) of the Communications Act. As the Commission properly recognized, the record in this proceeding¹⁹ fully supports a finding that tarriffing cellular rates is not "necessary" to ensure that those rates are just and

¹⁶Furthermore, because of the federal interest in promoting competition, the Commission should not permit the states to require the unbundling of cellular interconnection. See Petition for Clarification filed by McCaw Cellular Communications, Inc. at 7-9.

¹⁷NCRA Petition at 11-19; MCI Petition for Clarification and Partial Reconsideration ("MCI Petition") at 2-6.

¹⁸NCRA Petition at 13-16; MCI Petition at 3-5.

¹⁹Second Report and Order, 9 FCC Rcd 1411, 1478-1480.

reasonable (as well as not unjustly or unreasonably discriminatory), is not "necessary" to protect consumers, and is otherwise "consistent with the public interest." As a result, the Commission's decision to detarriff cellular rates was certainly lawful and appropriate.

TOSCIA

AirTouch supports the requests for reconsideration submitted by GTE Service Corporation ("GTE")²⁰ and the Personal Communication Industry Association ("PCIA")²¹ regarding the Commission's decision not to forebear from imposing the requirements of Section 226 of the Communications Act, established in 1990 by the Telephone Operator Consumer Services Improvement Act ("TOSCIA"). For the reasons set forth in the those petitions, the

²⁰GTE Petition at 2-6.

²¹PCIA Petition at 4-6.

Commission should decide that, even if the requirements of Section 226 could be applied lawfully to CMRS providers,²² the public interest would be significantly better served by forbearance.

Respectfully submitted,



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²²This issue is still outstanding and under review by the Commission staff. See Declaratory Ruling, 8 FCC Rcd 6171 (Com. Car. Bur. 1993), recon. pending.

APPENDIX A

Before the Public Utilities Commission
of the State of California

Investigation on the Commission's)
Own Motion into the Regulation of)
Cellular Radiotelephone Utilities,)

No. I.88-11-040

Testimony of Jerry A. Hausman and Jeffrey Chessher
filed in Phase III by PacTel Cellular (U-3001-C) and
its Affiliates: Sacramento-Valley Limited Partnership
(U-3004-C), Los Angeles SMSA Limited Partnership
(U-3003-C), and PacTel Mobile Services (U-4023-C)

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DIRECT TESTIMONY OF JERRY A. HAUSMAN IN PHASE III OF I.88-11-040

RE: RESELLER SWITCH

1 1. Q. Please state your name and business address.

2 A. My name is Jerry A. Hausman. I am Professor of Economics at the
3 Massachusetts Institute of Technology in Cambridge, Massachusetts, 02139. I
4 stated my qualifications and experience in my earlier testimony in this
5 proceeding.

6 2. Q. Please state the purpose of your testimony.

7 A. I understand that the issue under consideration in these hearings is
8 whether the reseller switch proposal put forward by Cellular Service, Inc.
9 (CSI) should be accepted by the Commission, and what regulatory and economic
10 principles should be established if such a switch is permitted. In my
11 testimony I discuss the economic principles which should be used to establish
12 a regulatory framework so that economic efficiency is guaranteed while at the
13 same time a level playing field for competition is established. I also
14 consider the issues of technological advancement and the effect on retail
15 cellular prices for consumers. I do not analyze the technical feasibility of
16 the proposed reseller switch, but I concentrate on the economic proposal for
17 the switch put forward by CSI witness Mr. Charles W. King.

18 ECONOMIC EFFICIENCY CONSIDERATIONS

19 3. Q. What should the Commission's goal be in evaluating the reseller
20 switch?

21 A. The overall objective of the Commission should be to enhance efficiency by
22 creating a "level playing field" for competition. Each competitor will have
23 certain possible advantages which it brings to a market. For instance,
24 technologies may differ and cost characteristics may differ among competitors.
25 In my view, a level playing field occurs when each competitor is able to

1 utilize its competitive advantages to the greatest extent possible. The
2 important principle is that competition, and economic efficiency, should be
3 the goal of the level playing field. Individual competitors should neither be
4 favored nor hindered in establishing the conditions for competition.

5 Two important aspects of economic efficiency are economies of scale and
6 economies of scope, and these economic factors must be considered by the
7 Commission in creating a level playing field :

8 (1) Economies of scale: I expect that the marginal and incremental
9 costs of the functions provided by a carrier which would be replaced by
10 a reseller switch will be below the average costs of these functions.
11 Thus, as usual in economics in evaluating the expected effect on price
12 of a change in cost, a marginal or incremental approach must be used to
13 ensure economic efficiency. An average cost approach, in contrast, will
14 arbitrarily inflate the carriers' costs to the detriment of consumers.
15 For example, if 25% of a carrier's wholesale customers moved to a
16 reseller's switch, the carrier's cost reduction for the functions
17 avoided by the reseller switch would likely be significantly less than a
18 corresponding 25% of the carrier's costs. To calculate the relevant
19 cost reduction, taking account of economies of scale, the Commission
20 should use either incremental cost in a forward looking manner or
21 avoided cost as described by the Commission in its proposed approach to
22 revision of the USOA. In the above example the correctly computed cost
23 reduction, reflecting incremental or avoided cost, would be less than
24 25%. As I described in my testimony regarding USOA modifications
25 (Question 9), all changes in costs caused (removed) by the provision of
26 service functions by the reseller switch would be included in the
27 incremental cost of service.

28 (2) Economies of scope: Costs to provide the services required by the
29 reseller switch will likely be higher than costs to provide similar
30 services to the individual carrier's networks because the economies of
31 joint production will be absent. Cost differences between provision of

1 a carrier provided cellular service to its own network and provision to
2 a reseller switch must be recognized for economic efficiency to exist.¹

3 Adding capacity in today's environment requires the splitting of cells.
4 Economies of scale do not exist in splitting cells. That is, there are not
5 economies of scale in what the resellers call the radio components of cellular
6 service. However, economies of scale do exist in the cellular network for
7 those components similar to the components of the landline network (i.e., call
8 recordation, number administration, billing functions, etc.). Economies of
9 scope also exist for certain features of cellular service such as enhanced
10 services. The parts of the cellular network that the resellers claim they
11 want to replace are the ones that are subject to economies of scale and
12 economies of scope.

13 4. Q. How can the Commission ensure that economics of scale and scope
14 are taken account of here?

15 A. Commission policy should make certain these economies of scale and scope
16 are made use of so that economically efficient production occurs, and it
17 should do this by making sure that regulation does not prevent prices from
18 reflecting the economies of scale and economies of scope. In a competitive
19 world the reseller switch would be charged a lower price than the wholesale

20 ¹ These cost differences are not a new problem for the Commission since
21 they arise in the same fashion in regulation of LECs. To ensure economic
22 efficiency and a level playing field, the Commission adopted an imputation
23 procedure which recognizes cost difference for a LEC provided service to itself
24 as compared to the LEC service provided to a competitor. The Commission has
25 recognized the importance of cost difference to ensure economic efficiency:

26 "However, because of economic efficiency considerations,
27 the local exchange carriers should be allowed to propose
28 that tariffed rates reflect any cost differences between
29 provision of the monopoly function as part of a bundled
30 utility service and provision of that function on an
31 unbundled basis." (Decision 89-10-031, October 17, 1989,
32 p. 141, footnote omitted)

1 price to ordinary resellers only if the facilities based carrier would
2 experience net cost savings by providing service to a reseller switch. These
3 net savings, if any, should be measured by using avoidable, or incremental,
4 costs. Under no circumstances should prices be kept artificially low to the
5 reseller switch so that a less efficient middleman (the resellers) can cover
6 production costs. Such a price umbrella may allow more retail competitors
7 (but only because of inefficient regulation). However, consumers would be
8 made worse off because prices for cellular service would be higher, all else
9 equal, by such a policy. Instead, customers should receive the competitive
10 benefits of efficient production resulting from economies of scale and scope.

11 An example from the regulation of long distance carriers demonstrates
12 how consumers can be harmed by a price umbrella. In the mid-1980's long
13 distance resellers attempted to stop regulators from allowing AT&T to lower
14 its prices because they claimed they would be forced out of business given
15 AT&T's economies of scale and scope. Eventually, AT&T did receive permission
16 to lower its prices, and many resellers did go out of businesses. However,
17 competition increased in long distance markets between AT&T, MCI and US Sprint
18 when AT&T lowered its prices and consumers were made better off. A regulatory
19 price umbrella always harms consumers and should be resisted by regulators
20 when companies ask for price protection in the name of increased competition.
21 Price umbrellas lead to decreased competition as well as higher prices.

22 5. Q. How should the costs differences be estimated correctly for the
23 proposed reseller switch?

24 A. The first principle to recognize is that carriers already have fully
25 operating cellular networks in place. These networks provide the initial
26 conditions for any calculation of cost differences since carriers made their
27 investments under market ground rules established by the FCC. There are two
28 methods that could be used to measure these cost differences. The first
29 method would be to use an avoided cost approach within a static framework.
30 Given a carrier's current network, how much would its costs be reduced today

1 if a given proportion of its end-users, say 5-10%, migrated to a CSI reseller
2 switch. Note that a given increment of cost savings would be used (not an
3 overall average) and no fully distributed cost (FDC) type allocations would be
4 made for investment in MTSOs because those investments were made with the
5 expectation that the MTSO would service all of the carrier's customers. Thus,
6 only actual avoided costs would be included in the calculation.²

7 A second (and closely related) method is to estimate incremental cost.
8 A growth rate over the next 5-10 years would be chosen for cellular in a given
9 market, and the present discounted cost of meeting this growth would be
10 estimated.³ A comparison calculation would then be made with a different and
11 lower growth rate (which could be negative) for the carriers' wholesale
12 customers with the remaining customers buying service from the CSI switch.
13 The comparison of this present discounted cost compared with the first
14 estimated cost divided by the number of customers who buy service from the CSI
15 switch would give an estimate of long run incremental costs.

16 The estimate of avoidable or incremental costs would then be the amount
17 by which the carriers' tariffs would be decreased to reflect the functions
18 provided by the CSI switch.

19 6. Q. If the difference in wholesale prices charged by a carrier to
20 ordinary resellers (without a switch) and the price charged to resellers with
21 a switch were equal to the carriers' avoidable costs, what implications would
22 that have for the viability of the reseller switch?

23 A. In my opinion, the financial viability of the reseller switch would be

24 ² As the avoided cost approach is extended into the future, it will give
25 identical results to the incremental cost approach which I now describe.

26 ³ Both the growth rate and the future costs are highly uncertain due to
27 the expected change to digital or spread spectrum technology by cellular carriers
28 in the next few years. The dynamic nature of the cellular industry with its
29 attendant risk was discussed in the OII. The CSI proposal causes the cellular
30 carriers to take these risks while the resellers provide the "landline" element
31 of cellular service where the technology is well determined and subject to only
32 minor risks.

1 open to question. For functions currently provided by the carrier's MTSO,
 2 avoidable costs of the carrier are likely to be small (or negative). (See the
 3 testimony of Mr. J. Chessher) The reseller switch's costs of providing these
 4 same functions is likely to be more costly because of its limited economies of
 5 scale and scope. Indeed, as CSI has previously stated, the switch requires
 6 cost based regulation to make "economic and competitive sense."⁴ Consistent
 7 with these previous statements, the CSI proposal asks for a regulated price
 8 based on fully distributed costs. Fully distributed costs are the archenemy
 9 of economic efficiency which is based on incremental or avoidable cost
 10 calculations. As Professor William Baumol, past-president of the American
 11 Economics Association, has written:

12 "Most economists have long been passionate in their rejection of the
 13 full cost pricing criterion. There are many reasons for the strength of
 14 our feeling on this matter of which only three will be mentioned here:
 15 the arbitrariness of the criterion, the resource misallocation it is
 16 likely to produce, and its tendency to undermine the competitive process
 17 at the consumer's expense." (W.J. Baumol, Micro theory: Applications
 18 and Origins, M.I.T. Press, Cambridge, MA, pp. 151-164)

19 Thus, the CSI proposal attempts to introduce cost based regulation because, in
 20 the view of the CSI, such regulation is required for the switch to make
 21 economic sense. Competition should not be subverted at the expense of
 22 consumers by cost based regulation so that the CSI switch can exist.

23 7. Q. Isn't the financial viability of the reseller switch a problem
 24 for the resellers, not the Commission, to worry about? Whether the switch
 25 survives or not would be determined by the market, would it not?

26 A. The switch might well not be economically viable if the proper price were
 27 charged to the switch. In that case the resellers would seek regulatory

28 ⁴ "CSI's proposal only makes economic and competitive sense if wholesale
 29 cellular carriers are required to unbundle the basic service elements of
 30 wholesale cellular service and offer such service elements at cost-based
 31 nondiscriminatory tariffed rates to switch-based resellers." (CSI Phase II
 32 Opening Comments, p. 1) Please see Appendix A for other similar statements.

1 relief. They are already doing this through the CSI proposal. The resellers
 2 want the price to the reseller switch to be determined by regulation using
 3 fully distributed costs where costs caused at wholesale are arbitrarily
 4 assigned to a wholesale "landline" customer and where costs caused by the
 5 reseller switch are not recovered by the rate for the resellers switch access
 6 and usage. This proposal is exactly the same phenomenon that is exhibited by
 7 the resellers' proposal for cost allocation for the retail side of the
 8 business. The resellers are attempting to create a price umbrella under which
 9 to operate. As Professor Baumol has noted:

10 "Competitors battle for a high floor under the regulated firm's prices
 11 in order to make life easier for themselves. Since the rules of full
 12 costing are arbitrary, the results can always be skewed, deliberately or
 13 unconsciously, to maximize the competitive handicap imposed upon the
 14 regulated firm, and one can generally rely on the complaining competitor
 15 to try to do so....But...in protecting inefficient competitors who could
 16 not otherwise fend for themselves, the regulators obviously succeed only
 17 too well in undermining the competitive process. Customers are forced
 18 to pay prices higher than they otherwise would, ostensibly in their own
 19 best interests!" (op. cit.)

20 THE CSI PROPOSAL OF MR. KING IS INCORRECT AND WILL LEAD TO FAILURE OF ECONOMIC
 21 EFFICIENCY

22 8. Q. Does the CSI proposal treat correctly economies of scale and
 23 economies of scope?

24 A. No, the CSI proposal is fundamentally flawed. Mr. King's endorses the use
 25 of an average cost approach. The average cost approach is incorrect because
 26 it fails to recognize the existence of economies of scale in the very
 27 functions the reseller switch is designed to perform, i.e. call verification
 28 and recordation, number administration, and billing. The correct approach is
 29 either to use incremental cost in a forward looking manner or to use avoided
 30 cost. A marginal or incremental approach must be used to ensure economic
 31 efficiency. The average cost approach proposed by Mr. King will lead to a
 32 loss of economic efficiency and to higher prices for consumers since cellular
 33 carriers' costs will not decrease by as much as their revenues because average

1 rather than marginal costs are used. Since average costs exceed marginal
2 costs, a deficit will be created for the cellular carriers' operations which
3 will need to be made up through higher prices for the "radio elements" of the
4 carriers operations.

5 The CSI proposal also does not correctly treat economies of scope. For
6 functions currently provided by the carrier's MTSO, the reseller switch will
7 increase costs to cellular carriers who will be required to provide the
8 services for the reseller switch. The CSI proposal takes no account of these
9 cost differences which arise from economies of scope, but rather assumes that
10 the cost of providing cellular services will be identical for the carriers'
11 own networks and for the reseller switch. The CSI proposal would again lead
12 to a loss of economic efficiency and to higher prices for consumers since
13 cellular carriers' costs (aside from LEC interconnection costs) will not
14 decrease by as much as their revenues because the costs of servicing the
15 reseller switch will be higher.⁵ Thus, the CSI proposal incorrectly treats
16 both economies of scale and economies of scope because it is based on average
17 (instead of marginal) costs of the cellular carrier. The marginal cost is the
18 difference between carrier provision of the entire wholesale service compared
19 to provision of part of the service by the carrier and the remainder provided
20 by the reseller switch, and properly reflects the costs which are caused by
21 accommodating the reseller switch.

22 9. Q. Your criticism of the CSI proposal of Mr. King identifies the
23 use of average rather than incremental cost as incorrect. Do other problems
24 exist with the use of an average cost approach?

25 A. Yes, the method used by Mr. King to calculate average cost corresponds to
26 a fully distributed cost (FDC) approach. As almost all professional
27 economists have agreed, an FDC approach is inherently arbitrary and bears no

28 ⁵ Obviously, the carrier will avoid landline interconnection costs, but
29 from the perspective of the consumer there is no cost saving since the reseller
30 will simply take over paying these costs.

1 relationship to the goal of economic efficiency.⁶ The essential mistake in
2 Mr. King's approach, as with all FDC approaches, is that he attempts to
3 apportion the fixed and common costs, e.g. the MTSO, based on arbitrary
4 allocation factors which are not based on cost causation. Since the MTSO does
5 a number of operations such as providing hand off capability, switching calls
6 to the landline network, and maintaining billing information, its processor
7 and memory provide inputs to many jointly done functions. When multiple
8 outputs are produced incremental cost, i.e. the cost of increasing (or
9 decreasing) a given operation is well-defined, but an average cost of each
10 operation is not well-defined because of the necessity of allocating the joint
11 and common costs.

12 A simple example may be useful here to show the difference between fully
13 distributed cost and incremental cost. At MIT I have a desktop personal
14 computer (PC) which is hooked up to a Laser Jet printer. The PC software
15 allows me to run computer programs and to print simultaneously. Now assume
16 that my department chairman is considering setting up a network to share
17 printers, but he faces the problem of deciding what my current cost of
18 printing is. The cost of the printer is easy to assign to printing because it
19 is used for only a single task. But how much, if any, of the cost of the
20 memory in my PC should be assigned to printing? The memory is used for both
21 processing programs and for printing. An FDC allocation of memory based on
22 some factor, e.g. the clock time per day that I am printing divided by total
23 time the computer is turned on, is clearly arbitrary and probably bears little
24 or no relationship to the correct cost causation measure. But, incremental
25 cost is well defined. It is the cost difference between my PC memory
26 configured for the printer network and my PC memory configured to do stand
27 alone printing. There is probably very little cost difference. (Similarly,
28 avoided cost would consider what costs of my current PC would be eliminated by

29 ⁶ See e.g. S.J. Brown and D.S. Sibley, The Theory of Public Utility
30 Pricing, (Cambridge University Press, 1986, p. 60) who state, "Although FDC
31 pricing has no claim to economic efficiency and is to a large degree
32 arbitrary..."

1 the printer network.) Thus, fully distributed costs are always incorrect;
2 cost causation measurements require an incremental or avoided cost approach
3 when attempting to measure competitive price responses.

4 10. Q. You state that Mr. King uses an FDC approach in his estimation
5 of "landline" costs of the cellular carriers. Can you provide examples of his
6 FDC methodology?

7 A. Yes, many such examples exist in Mr. King's attachments. I first consider
8 his investment allocations (e.g. Attachment A, Worksheet 1.1).

9 (1) Mr. King assigns 50% of the switching investment (line 4) to his
10 "radio" category and 50% to his "landline" category. This arbitrary
11 allocation attempts to divide the common cost of the MTSO into two
12 parts, but the allocation is not based on any underlying economic
13 principles of cost causation.

14 (2) Mr. King then takes the arbitrary amount of switching "used" by the
15 landline category and divides it by the sum of switching, base
16 controller, and radio channels to allocate the power investment category
17 (Line 3). Since the allocation is based on an arbitrary FDC allocation,
18 the result is arbitrary also.

19 (3) For the other investment categories, buildings (line 1), leasehold
20 improvements (line 2), and tools and equipment (line 7), Mr. King then
21 adds together the switching and power costs and divides by total
22 investment cost to get a ration factor for these categories. Again the
23 FDC allocations are totally arbitrary.

24 Indeed, it is straightforward to demonstrate that Mr. King's entire investment
25 allocation calculation depends entirely on the arbitrary 50% allocation for
26 switching. For instance, if the 50% factor were instead 25%, the costs
27 allocated to his landline category would be 1/2 as great, and so on. Clearly,
28 to find that allocation of categories such as buildings and leasehold
29 improvements is entirely determined by the arbitrary allocation of switching
30 investment demonstrates how arbitrary FDC and Mr. King's procedures are.

1 Next, I consider Mr. King's allocation of operating expenses (e.g.
2 Attachment A, Worksheet 1.2).

3 (1) For the maintenance (line 1), depreciation (line 2), and other
4 operating categories (line 5), Mr. King's allocation is driven entirely
5 by his initial arbitrary assignment of the 50% factor for switching
6 investment which I described above. That building maintenance costs are
7 calculated using an arbitrary allocation of switching investment again
8 demonstrates the arbitrary nature of FDC allocations.

9 (2) Mr. King allocates operating costs of customer accounts between his
10 radio category and landline category using an arbitrary factor of 33%
11 for the landline category. Again, this factor is completely arbitrary.

12 (3) Mr. King then allocates G&A expenses based on his estimates of the
13 other categories of operating cost, which are in turn based on the
14 arbitrary 50% assumption for switching investment and the 33% assumption
15 for customer accounts.⁷ This allocation of G&A expenses is an example
16 of attribution of common cost by the attributable cost method (ACM)
17 which is a common approach to FDC allocations.⁸

18 Lastly, I consider Mr. King's estimates of operations income, usage
19 rates, and wholesale operations return (e.g. Attachment A, Worksheets 1.3-
20 1.5).

21 (1) Mr. King attributes 30% of revenues to access charges and 70% to
22 operations. This estimate is arbitrary, but even more importantly is
23 not cost based since prices (and revenues) depend on demand conditions
24 as well as cost conditions. Thus Mr. King's use of this number to
25 estimate "usage revenues (Worksheet 1.3, line 2) which he later uses to

26 ⁷ Mr. King uses an additional arbitrary assumption of the cost per radio
27 channel frequency in his calculations.

28 ⁸ See e.g. Brown and Sibley, op. cit. p. 45 or R.R., "An Analysis of Fully
29 Distributed Cost Pricing in Regulated Industries," Bell Journal of Economics,
30 11, 1980.

1 derive his proposed tariff is arbitrary and not based on correct
2 economic considerations.

3 (2) When Mr. King then takes the current wholesale tariffs (e.g.
4 Worksheet 1.4) and divides them into a radio category and landline
5 category he uses his landline investment calculation (which is entirely
6 based on the arbitrary 50% switching assumption), the income calculation
7 (which is based on the arbitrary 30-70% split of revenues and the
8 arbitrary 50% switching assumption), and the operating expenses category
9 (based on the 50% switching assumption and the 33% customer accounts
10 assumption).⁹

11 Thus, each category is based on arbitrary FDC assumptions so that the final
12 calculated tariffs are also completely arbitrary. As I have testified before,
13 fully distributed cost has universally and properly been rejected as a basis
14 for public utility pricing. The Commission would be required to renounce its
15 goal of economic efficiency if it adopted the FDC approach put forward by Mr.
16 King and CSI.

17 MONTHLY ACCESS REVENUES PARTLY COVER THE FIXED COSTS OF THE CELLULAR NETWORK
18 WHICH WILL NOT BE ELIMINATED BY A RESELLER SWITCH

19 11. In your discussion of Mr. King's allocation of operating income,
20 you stated that assignment of revenues from access and revenues from

21 ⁹ Yet another problem exists with Mr. King's methodology. When he applies
22 his rate of return to a carrier's "rate base", he uses traditional rate of return
23 accounting methods on average net plant (e.g. Attachment A, Worksheet 2.5) which
24 use a historic investment basis for plant in use. For instance, for the Los
25 Angeles Limited Partnership (PacTel) he omits over \$39MM in retirements during
26 the 1989 year. (LA SMSA Limited Partnership, Year Ended Dec. 31, 1989, p. 15)
27 These retirements are caused by investment in improved switching equipment and
28 radio frequency channel equipment. Note that these retirements occurred before
29 PacTel was in operation for even five years, well before the equipment was fully
30 depreciated. Use of traditional rate of return accounting methods will give a
31 misleading calculation in a dynamic industry such as cellular where new and
32 improved equipment is put into service replacing less technologically advanced
33 equipment.

1 operations is incorrect because the allocation is based on an arbitrary
2 factor. Is Mr. King's treatment of access incorrect in other respects?

3 A. Yes, his approach is incorrect because Mr. King proposes to eliminate
4 monthly access revenues to the carriers from CSI customers. In his proposed
5 Cellular Tariffs for the cellular carriers (e.g. Attachment A for LACTC,
6 Schedule Cal. PUC-T) no monthly access charge is included. This approach is
7 simply wrong.¹⁰ Cellular networks, as with all telecommunications networks,
8 have a large proportion of fixed (or sunk) costs as a proportion of total
9 costs, c.f. my earlier Phase II testimony (p. 16). As I stated there, "A rule
10 of setting price equal to marginal cost would lead to large economic losses
11 and a lack of economic viability for a cellular carrier." In this type of
12 situation, it is common for a telecommunications provider to recover its fixed
13 costs and its variable costs by a combination of a monthly access charge and a
14 per minute usage fee. For instance, Pacific Bell and other LECs utilize this
15 type of tariff for both exchange access and for IXC access which uses a
16 monthly subscriber line charge (SLC) plus a per minute charge. Typically, the
17 proportion of costs recovered from the monthly access charge compared to the
18 per minute usage charge depends on the ratio of fixed to variable costs, but
19 it also depends on demand conditions and the degree of competition in the
20 market. The fixed costs must be recovered for the cellular provider to remain
21 economically viable, and much of the fixed costs are not eliminated when a
22 customer switches to a reseller switch. Thus, contrary to the CSI proposal
23 put forward by Mr. King the carrier monthly access charge cannot be
24 eliminated.

25 12. Does the fixed cost and access factors affect the network
26 configuration proposal of Mr. Widmar (Dual-system access, p. 4), Mr. Raney
27 (pp. 3-4), and Mr. Midgley (Figure 1, p. 1A)?

28 A. Yes, the CSI interconnection proposal as put forward by each of these

29 ¹⁰ The only revenue allowed by Mr. King for the carriers that is not usage-
30 based is a one-time charge for each T-1 trunk.

1 individuals has the CSI reseller switch connected to both carriers' MTSOs.
2 Because the CSI proposal envisions the reseller switch using either carrier's
3 switch interchangeably, the fixed costs of each carrier will increase compared
4 to the current situation where each carrier knows its number of customers and
5 can forecast its traffic load with some degree of certainty. Because a
6 cellular carrier will not know how CSI's use of its MTSO and radio component
7 of their network will fluctuate over time, carriers will be required to build
8 enough capacity to handle all reseller customers in order to maintain service
9 quality standards at current usage levels. The extra capacity will lead to
10 higher costs to society for the provision of cellular service, and it will
11 also likely lead to higher access tariffs (holding other factors equal) for
12 cellular customers.

13 A RESELLER SWITCH MAY LEAD TO HIGHER PRICES TO CONSUMERS AND RETARD FUTURE
14 TECHNOLOGICAL ADVANCEMENT

15 13. Q. Will these higher costs affect prices to retail customers?
16 A. Yes, in markets where prices are determined by competition as in cellular
17 markets, higher costs typically lead to higher prices. CSI witnesses have
18 claimed that costs to cellular carriers will be lower than at the present time
19 given a reseller switch. This comparison is incorrect since in competitive
20 markets economic efficiency and prices will depend on the total cost of
21 provision of cellular service including the carriers costs' and the reseller
22 switch costs. Unless the reseller switch is markedly more efficient at
23 performing the "landline functions" than the carriers' current switches, which
24 seems highly unlikely, total system costs will increase with the installation
25 of a reseller switch. Furthermore, the essential economic feature of
26 competition in cellular markets which creates imperfect competition--the
27 presence of two carriers in each market--will not change with the operation of
28 a reseller switch. Thus, contrary to DRA contentions that a reseller switch
29 would lead to lower prices, these higher costs may well lead to higher prices

1 for retail customers.¹¹ An important economic point of the CSI proposal is
2 that it will raise overall cellular costs--it does not provide a "free lunch"
3 to cellular customers. These higher costs will need to be reflected in higher
4 prices by the cellular carriers, but the CSI proposal takes no account of the
5 impact of higher costs upon prices.

6 14. Q. Does the CSI proposal balance risk and return appropriately?
7 A. No, the CSI proposal attempts to share in the earnings of successful
8 investments by the cellular carriers with little risk to themselves. In my
9 view the CSI proposal is an example of rent seeking behavior which is far
10 different from the competitive developments in other areas of
11 telecommunications which Mr. King reviews in his testimony. (pp. 13-16) In
12 each of those situations competition was permitted in a previous monopoly
13 situation where the monopoly provider faced relatively little competition and
14 little economic risk. Thus, the monopoly provider had close to a guaranteed
15 return which was the basis of rate of return regulation. Cellular differs
16 in at least two important respects. First, no one ever guaranteed cellular

17 ¹¹ See March 22, 1991 letter from DRA to Ms. Donna Wagoner of the CACD,
18 p. 1. The mistake in the DRA's economic reasoning can be explained by the
19 following simple example. Assume that the FCC had licensed only a single
20 cellular carrier in each CMSA and that carriers were unregulated. If a reseller
21 switch increased the monopolist's costs, its price would also increase.
22 Increased "downstream" competition does not affect the monopolist's markup of
23 price over cost since only the final price elasticity of demand from retail
24 customers (which has not changed) determines the markup. Under imperfect
25 competition as in the duopoly situation, economic theory cannot make an exact
26 prediction on the direction of the change in prices. However, increased costs
27 typically have the effect of increased prices absent rate of return type
28 regulation in a previous monopoly situation. Even the DRA recognizes that an
29 important question is whether the reseller switch proposal can be "accomplished
30 economically." (ibid., p. 2) Thus, the DRA's question on the economic
31 feasibility seems at odds with its their contention that lower prices will
32 necessarily result.

1 carriers a rate of return on their investment.¹² Indeed, cellular carriers
2 took considerable risk in constructing their networks, and early on (about
3 1985) many commentators predicted that cellular would never be that
4 successful.¹³ Even today, the implicit risk built into the stock market
5 prices of cellular companies is 2-3 times higher than for LECs or for AT&T.
6 Second, cellular carriers are not a monopoly; they are a duopoly in which no
7 one, in any area of the entire U.S., has ever demonstrated collusive behavior.
8 Thus, Mr. King's reference to the "unbundling of the monopolist's rate
9 structure on a cost-supported basis" (p. 15) is simply inappropriate since
10 there is no monopoly in the provision of cellular service. Mr. King claims
11 that a duopoly is "hence [a] largely non-competitive" market (p. 5), but he
12 has no basis in economic theory or in the actual facts of California cellular
13 markets to support his statement.¹⁴

14 The FCC established the ground rules for competition in cellular
15 telephone, and carriers made their investment decisions accordingly. The FCC
16 is now allowing for increased competition in mobile telecommunications with
17 its Fleet Call decision and through future entry of personal communications
18 systems (PCS). Resellers are certainly free to bid for SMR systems or to
19 build PCS networks in the future. If they are successful, they will receive
20 the rewards for their risks. But here resellers ask for a share of the
21 cellular carriers earnings using a "back door" form of rate of return

22 ¹² The Decision found cellular risk to be substantially different from the
23 monopoly telecommunications market. (D.90-06-025, Finding 82, p. 99) Also, the
24 Decision found that unlike monopoly LECs, cellular carriers have no captive
25 market of monopoly ratepayers. (Finding 87, p. 100)

26 ¹³ The market value of cellular franchises at that time was about \$10-12
27 dollars per pop (person in the relevant CMSA); the current price is 20-30 times
28 higher.

29 ¹⁴ The Decision found that the record does not substantiate that cellular
30 carriers are earning an excessive return on their investment. (Conclusion 20,
31 p. 105)

1 regulation.¹⁵

2 15. Q. Will a reseller switch affect incentive for future
3 technological advance in mobile telecommunications?

4 A. While the economic tradeoffs on a static basis between claimed increased
5 future innovation by resellers and the higher cost which will be caused by a
6 reseller switch cannot be quantified with any degree of certainty, a
7 Commission decision in favor of the CSI proposal could certainly dampen
8 incentives for future development of mobile telecommunications in California.
9 Thus, the Commission's "vital goal" (Decision, p. 17) of incentives for
10 technological advancement would be compromised. Assume I am a possible PCS
11 provider who in 1992 is deciding whether to construct a network. I will face
12 considerable risk with no guarantee of a successful return. However, if it
13 turns out my network is successful, should I expect the resellers to appear
14 again and ask for a share of my earnings since I can be hooked up to the
15 reseller switch? Economic studies have demonstrated numerous times that
16 investment in new products is strongly influenced by prospective return, and
17 the CSI proposal is basically a proposal to share in the return of successful
18 projects without taking the risk of investment in projects which may well turn
19 out to be unsuccessful.

20 16. Q. Will the CSI proposal have an impact on the cellular industry
21 and the regulation of the industry if the FCC grants PCS licenses?

22 A. Yes. The CSI proposal will have an adverse impact on the cellular
23 industry for the likely forthcoming competition between cellular and PCS
24 technologies. Cellular telephone will be made less competitive because of an
25 uneconomic added layer of costs that a reseller switch will create.
26 Regulators will be left with the difficult task of trying to balance the

27 ¹⁵ Mr. King and the CSI have repeatedly asked for "cost based" tariffs and
28 their proposal is a form of rate of return regulation. Please see Appendix A
29 for references to these previous statements.