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

Petition for Rulemaking	)	
of Pacific Bell Mobile Services	)	RM-8643
Regarding a Plan for Sharing	)	
the Costs of Microwave Relocation	)	

COMMENTS OF THE PERSONAL COMMUNICATIONS INDUSTRY ASSOCIATION

The Personal Communications Industry Association (PCIA) and its members hereby submit their comments on the Petition for Rulemaking filed by Pacific Bell Mobile Services (Pacific Bell).[1] As one of the original proponents of microwave relocation cost sharing, PCIA and its members strongly support the establishment of cost sharing requirements such as those proposed by Pacific Bell, with the modifications discussed herein. As illustrated by the number of signatories to this filing, Ameritech, American Personal Communications, BellSouth Wireless, Inc., Omnipoint Communications, Pacific Bell Mobile Services, Western PCS Corporation, PCIA has crafted a broad-ranging consensus within the PCS industry that cost sharing will facilitate the relocation process and create substantial benefits for both PCS providers and microwave licensees. The companies joining in these comments collectively will have Broadband PCS A and B block authorizations covering

[1] Petition for Rulemaking of Pacific Bell Mobile Services, RM-8643 (filed May 5, 1995) [hereinafter "Pacific Bell Petition"]; see FCC Public Notice, Report No. 2073 (May 16, 1995).

approximately 100 million POPs. Other A and B block PCS licensees have participated extensively in the development of this consensus, and PCIA anticipates additional companies representing a substantial number of the remaining licenses will explicitly support PCIA's plan in their individual comments and/or replies.

PCIA's plan will largely privatize the cost sharing process so that agency resources need not be embroiled in the performance of ongoing management or other responsibilities. However, expeditious FCC action to establish the process is critical for its benefits to be fully realized. PCIA therefore urges the Commission to promptly initiate a proceeding to promulgate cost sharing rules in order to speed the deployment of PCS services to the public.[2]

I. INTRODUCTION AND SUMMARY

PCS promises revolutionary new telecommunications capabilities for homes and businesses. Existing licensees have already invested billions of dollars in their authorizations, and others stand ready to pay out billions more. But, these important services cannot be deployed until incumbent microwave systems are relocated from the PCS spectrum. Completing the relocation process in a timely manner will require both the establishment of strong incentives for microwave licensees to relocate and the removal of disincentives for relocation. While the FCC has established rules to protect

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[2] Proposed rules reflecting PCIA's modified proposal are appended hereto.

microwave interests and facilitate the relocation process, an important issue requiring Commission action remains outstanding.

In Docket 90-314, PCIA suggested the establishment of mechanisms and procedures to promote sharing of the costs of microwave relocation among benefitted PCS interests, both licensed and unlicensed.[3] That proposal was the result of extensive industry discussions initiated by PCIA to develop a consensus approach to dealing with cost sharing issues. Pacific Bell was a key participant in the discussions and, not surprisingly, its petition largely reflects the industry-wide conclusions that emerged from those efforts.

PCIA recognizes that Pacific Bell may face unique circumstances in terms of the unusually high estimated cost of relocating certain microwave links in its spectrum, as well as in its exposure to adjacent channel interference. However, the cost sharing rules must operate fairly and efficiently for all PCS providers, and the modifications to the Pacific Bell plan proposed herein are designed to address these important considerations. Should further individual adjustments prove to be desirable, Pacific Bell, like all other PCS providers, remains free under PCIA's plan to negotiate relocation cost sharing arrangements in advance which reflect special circumstances. To the extent that there remain certain differences between the Pacific Bell and PCIA

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[3] PCIA Petition for Partial Reconsideration, GEN Docket No. 90-314 (filed July 25, 1994); Comments on Petition for Partial Reconsideration of the Personal Communications Industry Association, GEN Docket No. 90-314 (filed Aug. 30, 1994); Reply Comments of the Personal Communications Industry Association, GEN Docket No. 90-314 (filed Sept. 9, 1994).

plans, by its decision to participate in the filing of these joint comments Pacific Bell now supports the requirements set out herein in the interest of expediting this proceeding.[4]

While the agency was reluctant to act upon PCIA's original cost sharing proposal at the time it was submitted,[5] the imminent deployment of PCS systems has raised the level of urgency in securing a resolution of this critical issue. PCIA submits that adoption of a cost sharing plan modeled upon its original proposal as modified herein will now best serve both PCS and microwave interests without imposing an undue burden on the agency. To that end, PCIA recommends that the FCC promulgate cost sharing rules based on the following principles:

- Subject to certain simplifying limitations, cost sharing will be required when a PCS provider's system would have caused harmful interference to or received harmful interference from a co-channel microwave link's

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[4] As discussed in more detail below, the key differences between PCIA's current proposal and the plan detailed in Pacific Bell's petition relate to the cap on cost sharing expenses and the exclusion of adjacent microwave links for cost sharing obligations. PCIA's suggested limit of $250,000 (plus $150,000 for situations where it is necessary to build a new tower) per link in relocation costs subject to sharing and the exclusion of adjacent link relocation costs from the cost sharing requirements will facilitate the relocation process by ensuring fairness among PCS licensees, minimizing disputes, and protecting the interests of designated entities and UTAM, Inc. Accordingly, PCIA believes its modifications are necessary elements in an acceptable cost sharing plan.

[5] Amendment of the Commission's Rules to Establish New Personal Communications Services, 9 FCC Rcd 6908, 6915 ¶¶ 39-40 (Third Memorandum Opinion and Order) (1994). In its order, the FCC stated that although ". . . mandatory cost sharing is an attractive idea in theory, PCIA's proposal simply is not sufficiently developed to warrant adoption at this time." Id. PCIA believes that its new proposal is more detailed and that mandatory cost sharing is essential in facilitating the deployment of PCS services.

operations in the PCS provider's licensed frequency bands or service area borders, if not for the link's relocation.

- The costs to be shared will be determined on the basis of a formula taking into account the time the PCS licensee enters the market, amortization of the actual relocation expenses, and the number of PCS entities who benefit from the relocation, with a maximum cap of $250,000 in costs per microwave link, plus $150,000 for situations where it is necessary to build a new tower. Any costs above that amount must be absorbed by the relocating party.

- A non-profit clearinghouse will be established by the industry to collect relevant data and administer the cost sharing system.

- Cost sharing obligations will sunset ten years after the final PCS license is awarded by the FCC to further minimize administrative burdens.

Adoption of a cost sharing plan consistent with the foregoing will provide substantial benefits for all interested parties:

- Cost sharing will encourage the efficient and prompt relocation of microwave users, allowing for PCS service to be delivered to the public on an expedited basis.

- PCS providers will be able to deploy their services sooner, thus saving on administrative costs and expediting recoupment of their investments.

- The relocation process will be greatly simplified for microwave licensees by reducing the number of PCS providers with whom they must negotiate, and system-wide relocations will be facilitated.

- Designated entities and UTAM, Inc. will be able to take advantage of the PCS licensees' early relocation efforts, but will be able to pay their shares of the costs in installment payments, the total of which will be limited by the cap.

- Future C, D, E, and F licensees in particular will benefit because their smaller BTA markets will experience a greater number of situations in which multiple PCS providers have an interest in sharing the costs of relocating a microwave link.

- The potential for disputes over relocation costs and reimbursements will be minimized by use of the simplified empirical formula developed for Pacific Bell by Professor Paul Milgrom to determine the division of costs and the establishment of the clearinghouse to administer the transfer payments.

- The FCC's administrative role will similarly be minimized by privatizing the cost sharing process. The clearinghouse will attempt to settle any disputes which may occur, and the FCC itself will need to consider complaints regarding cost sharing only as part of the license renewal process.

Accordingly, the Commission should grant Pacific Bell's petition as modified by PCIA's consensus proposal and expeditiously undertake a rulemaking to adopt the cost sharing requirements described herein.

II. THE NEED FOR COST SHARING

A. The Characteristics of Microwave Systems and the Licensing Scheme Under Which They Are Deployed Will Cause Multiple PCS Entities to Have an Interest in Relocating the Same Link

In order for PCS systems to be fully deployed, thousands of microwave links using the PCS spectrum may have to be relocated. These microwave links consist of two "paired" transmit/receive channels, which are typically 10 MHz wide and spaced 80 MHz apart. There are also some 5 MHz wide "offset" microwave channels overlaid between the 10 MHz channels.

Due to incompatibilities between the old microwave and new PCS channelization plans in the 2 GHz band, any given microwave link can affect the ability

of a number of PCS licenses to offer service. First, microwave links are licensed on a coordinated site-specific basis with no established market boundaries and do not conform with the MTA and BTA PCS licensed areas. As a result, one end of a microwave path may fall in one PCS licensee's market and the other end of the same path may fall in another PCS licensee's market.

Second, the bandwidth occupied by a microwave licensee may fall into two PCS spectrum allocations. For example, a 10 MHz microwave channel centered at 1865 MHz occupies 5 MHz in PCS license Block A and 5 MHz in PCS license Block D. Moreover, although as noted above microwave systems typically utilize an 80 MHz separation between channels, which is consistent with the separation of paired PCS channels, that is not always the case. Thus, one channel of a microwave link may operate in one PCS licensee's spectrum while the other may be operating in a different licensee's spectrum. Or, one channel of a microwave link may operate in the unpaired unlicensed PCS spectrum allocation while the other channel operates in licensed PCS spectrum.

Additional difficulties arise because of the nature of microwave receivers and the ways they are deployed. Some PCS licensees will have to relocate microwave links operating on adjacent frequencies -- not simply those on their co-channel frequencies -- because the characteristics of microwave receivers will cause them to receive interference from across a broader range of spectrum than their own licensed operations. For example, a receiver in a microwave system using 10 MHz channels

may in fact receive signals over 15 to 25 MHz of spectrum straddling the channel's center frequency. As a result, PCS systems operating on those extended frequencies would interfere with the link and will, therefore, have an interest in relocating it.

Finally, many microwave links are configured into multi-link systems that stretch across extended geographic areas and operate on numerous different frequencies. Relocation of such an extended system thus is likely to affect the interests of a large number of PCS entities.

For all of the above reasons, multiple PCS entities may have an interest in relocating the same microwave link.

B. The FCC Should Endorse and Require the Participation of PCS Licensees in an Industry-Administered Cost Sharing Program

Under the existing FCC rules, if a PCS entity relocates a microwave link that operates, in whole or in part, on another PCS entity's authorized frequencies or in the other's licensed territory, there is no formal system for cost sharing between those PCS entities. Yet, such demands are bound to arise frequently because: (1) as explained above, many links operate in different PCS frequency bands and almost assuredly will cross a number of PCS license boundaries; (2) the microwave licensee community has already indicated that it wishes to negotiate the relocation of entire microwave systems

rather than individual links;[6] and (3) PCS licensees will have unique business plans, which will reflect different timelines and priorities for relocating microwave links. Although it may be possible in some cases for the affected PCS entities to identify each other and negotiate mutually acceptable arrangements for completing a relocation, in many cases parties benefitting from a relocation may not be in a position to reach such an agreement before one of the parties must move the link for its own business reasons.

This situation creates a substantial disincentive to prompt relocation of microwave links. PCS entities will hesitate to unilaterally move links that may benefit another PCS provider without any assurance that all benefitting PCS providers will bear a share of the costs commensurate with the benefit they are receiving. Inevitably, this will delay the provision of PCS services to the public and inhibit microwave licensees' attempts to secure system-wide relocations.

The FCC can and should take steps to resolve this serious problem in order to promote the earliest possible deployment of PCS. As set out in detail below, PCIA proposes that the FCC endorse and require participation in an industry cost sharing plan to ensure that beneficiaries of a microwave link relocation share in funding that relocation. PCIA's proposal involves the promulgation of FCC rules requiring cost sharing and the establishment of an entity to administer the exchange of cost sharing information and payments under Section 332 of the Communications Act, but largely

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[6] See, e.g., Comments of the Association of American Railroads, GEN Docket No. 90-314 at 2-3 (filed Sept. 27, 1994); Comments of the American Petroleum Institute, GEN Docket No. 90-314 at 6-7 (filed Sept. 27, 1994).

privatizes the cost sharing process itself. After extensive discussions among its members, PCIA believes that its proposal represents the best solution for both PCS and microwave interests and, indeed, for the industry as a whole.

III. GOVERNING PRINCIPLES OF PCIA MICROWAVE COST SHARING PLAN

A. Benefit Should Trigger a Cost Sharing Obligation

The fundamental principle underlying PCIA's cost sharing proposal is that PCS providers who benefit from the relocation of a microwave link should contribute to the costs of that relocation. In general, a cost sharing obligation would be triggered when a PCS provider's system would have caused harmful interference to (or received harmful interference from) a microwave link's operations if not for its relocation, subject to certain limitations. Interference will be calculated pursuant to TIA Bulletin 10F or other industry-accepted standard.

To simplify the process and minimize the administrative burdens, cost sharing will be required only for co-channel microwave links having endpoints within a PCS entity's authorized operating territory. Co-channel links are defined as those with an overlap of licensed occupied bandwidth. Although other PCS providers may also benefit from the relocation of a microwave link because of the potential for adjacent channel interference or co-channel interference to out-of-region links, inclusion of these additional links in the cost sharing program will vastly increase the complexity of the

process. This would exacerbate the administrative costs and burdens imposed by the cost sharing system while producing little in the way of additional benefits. In contrast, PCIA's "rough justice" approach will produce substantial benefits with acceptable costs.

A critical element of PCIA's proposal is the separation of interference rights from license rights as originally proposed to the Commission by Columbia Spectrum Management.[7] PCS providers would be entitled to acquire interference rights from a relocated incumbent in order to compel cost sharing contributions from later benefitting PCS interests. This will provide an easy mechanism for ensuring entitlement to cost sharing payments without disrupting the licensing system already in place.

In addition, early market entrants should pay a larger portion of relocation costs relative to latecomers to account for timing differences in the benefit various PCS providers receive from the relocation. In this manner, the PCS interest that benefits most and longest will pay the largest share of the costs. Moreover, because the relocating PCS licensee must pay the highest proportional amount, it retains an incentive to negotiate the lowest possible relocation cost.

Finally, to ensure that cost sharing requirements do not become a never-ending burden, all obligations would sunset ten years after the last PCS license is awarded by the FCC. Although some PCS providers may enter the market after this date, the

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[7] Ex Parte Filing, Columbia Spectrum Management, GEN Docket No. 90-314

majority will already have set up their systems. To continue to operate a clearinghouse at a time when few payments would be anticipated would be inefficient and incur unjustifiable administrative costs.

B. The Plan Should Promote Fair Participation by All Interested Providers

Adoption of certain additional requirements will increase the efficacy and fairness of a cost sharing plan. First, PCS providers are both permitted and encouraged to coordinate their efforts and agree on compensation issues prior to relocating microwave links. The existence of the cost sharing formula and clearinghouse will serve as an incentive for PCS interests to agree in advance on sharing relocation costs. Particularly for situations involving extensive multi-link microwave systems, PCS interests are encouraged to identify interested parties and to agree in advance on a specific division of costs. In this manner, they can use their combined resources to accomplish the relocation as quickly as possible.

Second, designated entities and UTAM, Inc. (the frequency coordinator for the unlicensed PCS spectrum) will be entitled to deferred payment options. This will give designated entities an installment payment option on terms similar to those offered in the FCC auction process and allow them to pay out their share of the costs over a longer period of time. Installment payments and the $250,000 (plus $150,000 where a new tower is necessary) limit on shared costs will ensure that designated entity PCS

licensees are not overly burdened or put at a competitive disadvantage by the imposition of unfair or unreasonable microwave relocation costs.

UTAM, Inc. has similar deferred payment needs because it will be funding relocation costs with clearing fees from coordinatable devices deployed prior to complete band clearing.[8] Most of the links in the unlicensed band are co-channel with a link in a licensed PCS band. As PCS licensees clear spectrum, unlicensed PCS manufacturers will be able to sell more devices and systems. This will generate more clearing fee revenue for UTAM, Inc. and allow it to make cost sharing payments to those PCS licensees who initially relocated links affecting the unlicensed band. A cost sharing requirement will also benefit both designated entities and UTAM, Inc. by allowing them to relocate links crucial to system deployments early with the knowledge that they will be reimbursed for part of the relocation costs when other PCS licensees would have caused interference to the relocated link.

Third, to ensure that PCS interests entering the market later are not burdened with excessive "premium" costs paid by another PCS licensee to a microwave link for an early relocation, cost sharing would be capped at $250,000 per link, plus $150,000 for situations where it is necessary to build a new tower. This system replacement cap is consistent with the record evidence of average link costs in the PCS docket, yet

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[8] Amendment of the Commission's Rules to Establish New Personal Communications Services, UTAM Plan for Financing and Managing 2 GHz Microwave Relocation, GEN Docket No. 90-314, at 36-38 (filed Aug. 1, 1994).

would ensure that latecomers could not be burdened with excessive costs that benefit only the relocating party.[9]

IV. MECHANICS OF THE COST SHARING PLAN

Based on the principles outlined above, a cost sharing plan would work in the following manner. These details are largely identical to the plan set out in Pacific Bell's petition.

A. A Formula Taking into Account Time of Entry and the Total Cost of Relocating the Link Will Be Used to Determine Each PCS Provider's Cost Sharing Obligations

The actual cost sharing payments required from benefitting PCS interests would based on the mechanism suggested by Pacific Bell in its Petition.[10] Payments will be calculated using a formula which is derived by amortizing the cost of relocating a particular microwave link over a 10-year period. As PCS providers enter the market, their share of relocation costs is adjusted to reflect the total number of PCS providers who benefit and the relative time of market entry. The formula PCIA recommends is as follows:

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[9] PCIA recognizes that the actual costs of any particular relocation may be higher or lower than this figure. If they are lower, only the actual costs will be eligible for sharing.

[10] Pacific Bell Petition at 7-9.

$$R_N = \frac{C}{N} \times \frac{120 - (T_N - T_1)}{120}$$

R_N amount of reimbursement

C total amount to relocate system

N number for the interfering PCS provider

T_N number of month that PCS provider places his system in service

T_1 month that first PCS provider placed his system in service

Using this formula, each benefitted PCS provider would calculate its contribution to the cost of relocating a link and reimburse all PCS providers who have previously contributed.[11] The reimbursement would be divided equally among the earlier contributors.

As discussed above, the cost of relocating a link for cost sharing purposes will be limited to $250,000, plus $150,000 for situations where it is necessary to build a new tower. The cap applies on a per link basis but does not account for repeater systems (2 links replacing 1 existing link) or system anomalies. If one microwave link has a repeater system, needs a repeater system, or has some other anomaly that causes

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[11] The shared costs of relocating a link will take into account items such as the following: radio terminal equipment (TX and/or RX - antenna, necessary feed lines, MUX/Modems); towers and/or modifications; back-up power equipment; monitoring or control equipment; engineering costs (design (path survey)); installation; systems testing; FCC filing costs; site acquisition and civil works; zoning costs; training; disposal of old equipment; test equipment (vendor required); spare equipment; project management; prior coordination notification (PCN); site lease renegotiation; required antenna upgrades for interference control; power plant upgrade (if required); electrical grounding systems; HVAC (if required); alternate transport equipment; and leased facilities.

relocation costs to exceed the $250,000 cap (plus $150,000 if a new tower is necessary), these costs can only be passed on to other PCS licensees if they are negotiated in advance.

Although the cap may result in some PCS providers absorbing the additional costs of relocating more expensive links, it gives PCS providers a strong incentive to control relocation costs responsibly.[12] The cap also protects PCS interests who will be required to make cost sharing payments long after a link has been relocated and who will have had no input into the negotiation of the relocation costs. Any substantial premium above the cap that is paid by a relocating PCS provider for an early relocation will be charged to the benefitting entity and will not burden those who enter the market later. In addition, the cap will lower administrative costs by minimizing disagreements between PCS providers over the reasonableness of relocation costs.

To encourage PCS providers to relocate entire microwave systems instead of individual links (as favored by the microwave licensees), a PCS provider who, as part of a system-wide relocation, relocates a microwave link which is not operational in its PCS licensed frequency band or service area would be entitled to 100% reimbursement of the costs of relocating that link by benefitted PCS entities. Those who will have to reimburse the relocating party for those costs will be protected by the $250,000 cap (plus $150,000 if a new tower is necessary) on shared costs. In addition, as explained

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[12] Of course, a PCS provider who anticipates greater than average costs for a particular relocation may always seek to negotiate a separate sharing arrangement.

above, the special needs of designated entities and UTAM, Inc. would be accommodated by allowing them to utilize installment payments to fulfill their cost sharing obligations.

B. A Microwave Relocation Clearinghouse Will Facilitate the Transition of the Spectrum and Minimize Administrative Costs

Establishing a microwave relocation clearinghouse will facilitate cost sharing and, hence, the relocation process. Such a mechanism will simplify the process for incumbent microwave licensees by promoting relocation of their networks rather than individual links. In addition, it will expedite the relocation process and the deployment of PCS services by improving incentives to band clearing and facilitate cost sharing among PCS providers benefitted by the microwave relocations. A central administrator for the exchange of sharing payments will facilitate the handling of the substantial number of transactions that could be expected as well as minimizing administration costs.

The clearinghouse will be a non-profit industry organization established under Section 332 of the Act and funded by the PCS industry. It will perform several functions. First, the clearinghouse will collect the necessary information regarding actual costs and relocations, as reported by PCS providers, and administer the payment system. Second, it will participate in the resolution of disputes among PCS entities regarding fulfillment of their cost sharing obligations, such as whether interference

would occur under TIA Bulletin 10F or other industry-accepted standard, whether the parties have complied with the cost allocation formula, whether certain costs are eligible for sharing, and whether cost documentation is adequate. Third, the clearinghouse must ensure that the confidentiality of competitively sensitive information is protected through appropriate access restrictions and insulation procedures. At a minimum, data assembled by the clearinghouse will be available only to participants in the clearinghouse and only upon a demonstration of need for the information.

The clearinghouse process will work in the following manner. A PCS party that relocates a microwave link will submit relevant cost and clearing information in a standardized format which will be entered into the clearinghouse database. Then, data processing software at the clearinghouse will be used to identify potential existing and future "interferers" to which cost sharing obligations would attach. The clearinghouse will issue periodic requests to all PCS providers for certification that their existing operations would or would not have interfered with relocated microwave links. Compliance with such requests will be required by FCC rule. The clearinghouse will manage a payment system so as to minimize the costs of the payments that will need to be made between PCS providers.

PCIA has taken the lead in developing a cost sharing proposal and will continue to work with the PCS industry, including the many PCS licensees who are already PCIA members, to develop a detailed clearinghouse plan. PCIA envisions that the costs associated with the clearinghouse will be paid by the PCS industry members who

will benefit from such a plan. Although some additional administrative costs will be incurred to establish and operate the clearinghouse, the benefits and administrative costs saved by the industry as a whole will far outweigh any costs incurred.

V. BENEFITS OF THE PCIA PROPOSAL

PCIA submits that its proposal best addresses the needs of both the PCS and microwave interests as well as the goals of the FCC for prompt deployment of PCS. The proposal also accommodates the agency's concern that it not be unduly burdened with administration of a cost sharing program and the interests of designated entities in promoting a full and fair opportunity for them to participate in the PCS industry.

A. PCIA's Proposal Will Minimize Administrative Costs and Difficulties Associated with Implementation of a Cost Sharing Program

PCIA's plan will limit PCS providers' administrative expenses for and the commitment of agency resources to the cost sharing process. After promulgation of the initial cost sharing rules, the FCC's involvement in PCIA's proposed cost sharing program will be minimal because the clearinghouse will handle data collection and exchange of payments among PCS entities and assist in dispute resolution.

PCS entities would be required to resort to alternative dispute resolution techniques to settle conflicts. As in the context of disputes between PCS interests and microwave licensees, parties would be required to obtain independent appraisals to

resolve disagreements over valuations.[13] Further, the factors which will determine whether a cost sharing obligation attaches, such as co-channel operation and location within an entity's operating territory, have been simplified as much as possible to minimize the likelihood that such disputes will arise. FCC oversight would be confined to considering complaints concerning PCS providers' alleged failure to comply with cost sharing obligations as part of the PCS license renewal process.

B. All Interested Parties Will Benefit Substantially from Adoption of PCIA's Proposal

A cost sharing plan consistent with the principles recommended by PCIA will benefit both microwave licensees and PCS providers (including designated entities).

1. Microwave Incumbents

Microwave incumbents will benefit from an industry cost sharing plan in several ways. As explained above, cost sharing among PCS providers will facilitate the relocation of entire microwave systems, rather than only individual links, which microwave licensees have stated is a top priority for them. A PCS licensee will be reluctant to relocate a microwave system which includes links outside its service area if it has no hope of being compensated by other PCS licensees who would need to relocate those links later.

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[13] Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, 9 FCC Rcd 7797, 7810 ¶¶ 28-32 (1994).

However, if, as provided by PCIA's proposal, a PCS licensee can be compensated for 100% of the links it must relocate outside its service area and frequency band (up to the $250,000 cap, plus $150,000 for situations where it is necessary to build a new tower), then it will be more willing to relocate a microwave licensee's entire system and receive reimbursement later. Mandatory cost sharing also provides a strong incentive for other affected PCS providers to voluntarily participate in the relocation process. This will likely make the transition significantly easier for microwave incumbents. Microwave licensees will incur fewer transaction costs because they will have to deal with a smaller number of PCS entities regarding the relocation of each link. Finally, a cost sharing mechanism will encourage PCS providers to relocate incumbents quickly and, thereby minimize any disruption to incumbents' operations.

2. PCS Providers

In addition to benefitting microwave licensees, cost sharing will benefit PCS providers by facilitating the relocation process generally, allowing more expeditious service deployment and, hence, return on investment. A PCS licensee will be reluctant to relocate links quickly if it must absorb the entire cost and cannot compel cost sharing from a competitor who also benefits from the relocation. If each PCS licensee waits to relocate links in the hope that his competitor will relocate it first, the entire PCS deployment process will be delayed.

But, if PCS licensees are assured compensation from their competitors who also benefit from a link's relocation, they will have an incentive to move ahead swiftly to relocate the links necessary to deploy their systems. At the same time, the formula outlined above assigns a greater portion of the shared costs to the PCS provider seeking the early relocation in order to ensure that the party gaining the greatest benefit from the relocation pays the largest portion of the cost. In addition, the cap on total costs eligible for sharing ensures that a PCS interest who first relocates a link cannot impose unreasonable costs on later market entrants.

3. Designated Entities

Designated entities will enjoy particular benefits from PCIA's proposal. As noted above, designated entity PCS licensees will be permitted to pay their cost sharing obligations in installments. This is consistent with the Commission's treatment of designated entities in the auction process.

Moreover, by removing a disincentive for other PCS entities to move forward promptly with microwave relocations, designated entity licensees may be able to begin service earlier while still deferring their cost sharing obligations over a reasonable time period. Because their cost sharing obligations do not attach until their operations would have interfered with a relocated microwave link, a designated entity licensee's finances will not be burdened by demands from other entities for up front sharing payments. Again, the cost cap of $250,000 (plus $150,000) will protect designated

entities from having to share the costs of premiums paid by PCS licensees who need early relocation.

Most importantly, designated entities have much to gain from establishment of a reasonable cost sharing program because they will probably find themselves in relocation situations involving multiple PCS providers more often than some other licensees. Microwave link paths will more frequently cut across the smaller geographic areas covered by the BTA licenses available to designated entities than the larger MTA boundaries. As a result, such links will be more likely to have endpoints in different BTAs than they will be to have endpoints in different MTAs. Absent some mechanism to facilitate agreement over the splitting of relocation costs, designated entities could be faced with a morass of competing claims, with the resulting inertia a cause for substantial delays in the initiation of service.

4. UTAM, Inc.

UTAM, Inc. will similarly benefit from a cost sharing plan which encourages early relocations. As microwave links are relocated, more coordinatable unlicensed devices and systems can be deployed and the sooner nomadic devices will be deployable. This will give UTAM, Inc. the revenue needed to pay its cost sharing obligations and to relocate other links in the unlicensed band.

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