TABLE 9: CHANNEL AVAILABILITY IN CANADIAN BORDER AREAS ("✓" = Available; "X" = Use Restricted In Region)					
Channel Number	Subchannel 1 Center (MHz)	Subchannel 2 Center (MHz)	General Border Use Plan	Buffalo/ Toronto Area	Detroit/ Windsor Area
B	901.91875	n/a	✓	✓	✓
C	901.93125	n/a	✓	X	✓
D	901.94375	n/a	✓	X	✓
E	901.95625	n/a	X	X	✓
F	901.96875	n/a	X	X	✓
G	901.98125	n/a	X	X	X
H	901.99375	n/a	X	X	X

Licensees should also note that transborder operations with Canada (*i.e.*, providing service to Canadian mobiles from the U.S. and providing service to U.S. mobiles in Canada) is governed by the *Convention Between the United States of America and Canada Relating to the Operation by Citizens of Either Country of Certain Radio Equipment or Stations in the Other Country* (May 1952). These general provisions provide for the registration of transborder mobile equipment. While specific procedures have been adopted for some individual radio services (*e.g.*, cellular), no specific transborder agreement has yet been reached with regard to narrowband PCS.

E. PCS Equipment Type Acceptance Requirements

All equipment deployed under a PCS authorization, including mobile units blanket licensed to PCS system operators, must have received FCC type acceptance. Type acceptance is, except in unusual circumstances, obtained by equipment manufacturers prior to

marketing. However, PCS licensees should be aware that some modifications to equipment that alter the radio emissions characteristics of a transmitter have the effect of voiding the type acceptance. Accordingly, PCS licensees should consult with the FCC or counsel prior to deploying equipment that has been modified by anyone other than the original manufacturer.

PCS licensees should also be aware that the Commission's regulations on radiofrequency radiation exposure limitations are enforced through the type acceptance process. At the time the PCS rules were adopted, the FCC was in the midst of a rulemaking proceeding (ET Docket No. 93-62) to change the basis of its radiofrequency radiation exposure limits from the 1982 ANSI C95.1 standard the to 1992 ANSI/IEEE C95.1 standard. Until that rulemaking is completed, which is anticipated to be in the first quarter of 1995, PCS licensees are specifically required to ensure that their facilities and equipment meet the exposure limits, as appropriate, for controlled and uncontrolled environments in the 1992 ANSI/IEEE C95.1 standard.[31] Under the 1992 ANSI/IEEE C95.1 standards, handsets where the input power to the antenna is 100 milliwatts or less are not required to be evaluated for compliance with the specific absorption rate limits, as long as a 2.5 centimeter separation distance is maintained between the radiating structure and the head.

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[31] The Commission already requires compliance with 1992 ANSI/IEEE C95.1 standards for all handsets used for CMRS operations. *See* Implementation of Section 332 of the Communications Act -- Mobile Service Regulation, 76 Rad. Reg. 2d (P & F) 326, 365 (1994).

F. PCS Numbering

NXX code assignments. As co-carriers, PCS providers utilizing Type 2 interconnection have a right to obtain central office (NXX) codes. Industry numbering groups have developed consensus Central Office Code Assignment Guidelines to set forth standards for assignment of initial and additional NXX codes. (The Guidelines include a standard NXX code request form.) Currently, code assignments are made by the dominant local exchange carrier in each area -- typically, the regional Bell Operating Company, but in some cases, GTE. However, the FCC has proposed to centralize responsibility for making code assignments in a single entity not affiliated with any user of numbering resources. This proposal received significant support, and there is a good possibility that it will be implemented some time in 1995.

Non-geographic numbering resources. Traditionally, area codes (also called NPAs) and NXX codes in the North American Numbering Plan have denoted specific geographic locations. For example, the 202 NPA covers Washington, D.C., and NXX codes within the 202 NPA are associated with specific switch locations in Washington, D.C. Although the use of geographic numbers makes sense for landline services, many mobile service providers have sought non-geographic numbers -- that is, numbers that are not tied to a particular physical location -- for use in connection with certain mobile services.

In mid-1993, after several rounds of industry discussions, the North American Numbering Plan Administrator (NANPA) announced that it would make the 500 Service Area Code available for "personal communications services" (a broader term than the FCC's definition of PCS). 500 numbers (like 800 numbers) do not denote specific geographic

locations. However, in response to industry concerns that the 500 code assignment guidelines might disadvantage new PCS entrants, the FCC directed NANPA to defer assigning 500 numbers until it sought comment on whether the proposed use of the resource was in the public interest.

In mid-1994, the Commission advised NANPA that it could begin assigning 500 numbers. As of early August 1994, NANPA had assigned 280 of the 781 available 500 NXX codes. Because of strong demand for these numbers, the industry is considering code conservation measures, as well as the possibility of opening up the 400 Service Area Code for non-geographic PCS numbering assignments.

Even though 500 numbers have been assigned, questions remain regarding the precise physical interconnection arrangements and charges for 500 access. Several LECs have sought waivers of the FCC's rules in order to establish 500 access charges, and some have filed tariffs contingent upon approval of the waivers. As of the date of publication, the FCC had not acted on these waiver requests.

Finally, many mobile service providers have expressed an interest in "personal numbering." Under this concept, a customer would use the same telephone number regardless of his or her physical location and the network employed to deliver the call. Some carriers have introduced versions of personal numbering services, but discussions about how to implement personal numbering remain pending in U.S. and international numbering organizations.

G. 911 and E-911 Requirements

The FCC has recently initiated a rulemaking proceeding to examine 911 and E-911 requirements for PCS providers. At the time of printing, however, this rulemaking has not been completed. PCS licensees should be aware that specific regulations concerning treatment of 911 and E-911 calls could be implemented by the time that narrowband PCS licenses are issued. Licensees are encouraged to contact either PCIA or the FCC to determine if any regulations have been adopted before purchasing network equipment to ensure that their switching equipment has the technical capabilities necessary to comply with FCC requirements.

V. 900 MHz NARROWBAND PCS OPERATIONAL RULES AND REGULATIONS

A. Federal and State Jurisdictional Relationship

The states and the federal government have traditionally shared responsibility for regulating wireless communications services, with the FCC regulating interstate aspects and the states regulating intrastate aspects. Federal regulation is based on Titles II and III of the Communications Act, which govern common carrier and radio services, respectively.[32] Recently, however, Congress enacted amendments to the Communications Act that substantially revise the division of authority over wireless carriers.

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[32] Title II also delineates the regulation required at the federal level by the FCC. Its application to CMRS is discussed in Section V(B).

The Budget Act of 1993 provides that, as of August 10, 1994, state entry and rate regulation over CMRS (which includes PCS) will be preempted. However, this preemption is limited in several respects. First, states are still permitted to regulate "other terms and conditions" of CMRS offerings, such as quality of service, blocking rates, and transfer of control of common carriers. Second, CMRS providers that offer substitutes for landline telephone exchange service for "a substantial portion of the communications within a state" are not exempt from state requirements imposed on all telecommunications providers designed to ensure universal service at affordable rates.[33]

In spite of the preemption, a state may petition the Commission for authority to begin or continue to regulate commercial mobile service rates. A state petitioning to regulate (or continue regulation of) CMRS must demonstrate that prevailing market conditions will not protect subscribers adequately from unjust and unreasonable rates or rates that are unjustly or unreasonably discriminatory. The state bears the burden of proving that it has met the statutory basis for the continuation or establishment of state rate regulation, and in its rules, the Commission has outlined types of evidence that would be pertinent to establishing the necessity for such regulation.[34]

For states filing petitions to continue rate regulation by August 10, 1994, and that had rate regulation in effect as of June 1, 1993, the Budget Act allows continued state jurisdiction

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[33] Petitions seeking to demonstrate that state rate regulation is appropriate because CMRS is a replacement for landline telephone exchange service for a substantial portion of the telephone landline exchange service provided within the state must include a showing: (1) that market conditions are such that they do not protect subscribers adequately from unjust and unreasonable rates, or (2) that rates that are unjustly or unreasonably discriminatory, and a substantial portion of the CMRS subscribers in the state or a specified geographic area have no alternative means of obtaining basic telephone service. Implementation of Section 332 of the Communications Act -- Mobile Service Regulation, 9 FCC Rcd 1411, 1505 (1994) ["*CMRS Second R&O*"].

[34] *Id.*

pending FCC auctions on the petitions. The FCC must complete its consideration of these petitions within twelve months after the petitions are filed. As of August 10, 1994, Arizona, California, Connecticut, Hawaii, Louisiana, New York, Ohio, and Wyoming filed petitions to continue rate regulation. The FCC has solicited public comment on these petitions and is expected to act upon them shortly. Companies doing business or considering providing PCS should consult the FCC or PCIA to determine the status of action on the petitions to continue regulation, as well as determining whether any states subsequently file petitions to initiate regulation.[35]

B. CMRS Regulations

While the narrowband PCS rules do not limit use of the spectrum to Commercial Mobile Radio Service ("CMRS") operations, narrowband PCS licensees are presumed by the Commission to be offering CMRS.[36] As CMRS operators, PCS licensees are subject to various regulations under Title II of the Communications Act. The same standards apply to resellers of PCS service. A complete list of the Title II regulations applicable to PCS licensees is shown in Table 10 below.

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[35] Interested parties also may petition the FCC to suspend state rate regulation, which must be based on recent empirical data or other significant evidence. Parties will not be allowed to file such petitions until eighteen months after the state regulations are implemented.

[36] Applicants for new authorizations are permitted to make a showing, however, that their operations will conform to the requirements of private mobile radio services.

TABLE 10: TITLE II REGULATIONS APPLICABLE TO PCS LICENSEES	
Section	Description
201	Service and charges. This section requires carriers to provide service upon reasonable request and imposes a general requirement that rates, terms and conditions of service are just and reasonable.
202	Discrimination and preferences. This section imposes an obligation on carriers to avoid rates, terms and conditions that are unjustly or unreasonably discriminatory.
206	Carriers' liability for damages.
207	Recovery of damages.
208	Complaints to Commission; investigations; duration of investigation; appeal of order concluding investigation.
209	Orders for payment of money.
210	Franks and passes; free service to governmental agencies in connection with national defense.
213	Valuation of property of carrier.
215	Examination of transactions relating to furnishing of services, equipment, etc.; reports to Congress.
216	Receivers and trustees; application of chapter.
217	Agents' acts and omissions; liability of carrier.
218	Management of business; inquiries by Commission.
219	Reports by carriers; contents and requirements generally.
220	Accounts, records and memoranda.
221	Consolidations and mergers of telephone companies.
223	Obscene or harassing telephone calls in the District of Columbia or in interstate or foreign communications.
225	Telecommunications services for hearing-impaired and speech-impaired individuals.
226	Telephone operator services.
227	Restrictions on the use of telephone equipment.
228	Regulation of carrier offering of pay-per-call services.

1. Obligation To Provide Service at Just and Reasonable Rates on a Non-Discriminatory Basis

Under Sections 201 and 202 of the Title II, all CMRS licensees are required to offer service on a non-discriminatory basis at rates that are just and reasonable. Although rates are not generally regulated through a tariff approval process at either the federal or state level,[37] these sections do impose affirmative requirements upon carriers:

- Carriers may not deny service to resellers, including other facilities-based competitors,[38] or unreasonably restrict resale. In other words, carriers may not prevent a customer from using a service for any purpose for which a payment, surcharge, or other compensation will be received by the customer. Carriers may not require that customers have a communications requirement of their own, or a direct interest in the content of communications, in order to purchase a service.

- While carriers are not required to notify resellers of every new or changed rate plan, carriers must allow resellers to take service on the same terms and conditions as any other customer would take service. Thus, a carrier does not need affirmatively to notify resellers of new or modified rate plans unless it does so for other customers.

- Carriers need not separate their wholesale and retail offerings. While the Commission establishes marketplace rules that permit resale, it is up to the reseller itself to decide if market entry is sufficiently profitable. The Commission has never required a specific wholesale/retail price margin.

- Carriers may condition service offerings to customers on terms and conditions that are reasonable in light of the circumstances, including minimum time

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[37] As previously noted in Section V(A), states are generally preempted from regulating CMRS rates. However, a number of states have filed petitions to continue their regulations that, by operation of the statute, will continue their regulations in force until the FCC acts on their petitions. Some of these regulations may be broad enough to include regulation of narrowband PCS. In addition, states could file petitions seeking to initiate state regulation of narrowband PCS rates.

[38] Under the Commission's rules for cellular systems, a cellular licensee may deny a resale request by the other facilities-based carrier operating in the market after the latter's the five-year build-out period has expired. No analogous rule currently exists for narrowband PCS.

commitments, termination charges, and recurring charges. Carriers should note, however, that the terms and conditions of service are also subject to state regulatory oversight. If a reseller meets the applicable terms and conditions for an offering, however, the service plan and any bulk discounting must be made available to the reseller.

Thus, even in the absence of explicit tariffing requirements, carriers should nonetheless ensure that they keep track of all rate plans offered to any customers and the terms and conditions that apply to such rate plans.

2. Interconnection

PCS licensees, as CMRS providers, are also entitled to reasonable and fair interconnection from local exchange carriers ("LECs"), *i.e.*, a LEC may not deny a CMRS provider any form of interconnection arrangement that the LEC makes available to any other carrier or customer, unless the LEC can demonstrate that such requested interconnection arrangement is not technically feasible or economically reasonable. PCIA has published an updated *1995 Interconnection Primer* that describes the technical interconnection configurations available to CMRS providers, reviews the terms and conditions of interconnection in detail, and suggests forms and negotiating strategies for obtaining fair and reasonable interconnection.

The Commission is currently evaluating a number of other important interconnection issues. These include:

- Whether equal access obligations should be imposed on PCS providers and cellular operators?

- Whether LECs should tariff interconnection rates or whether the FCC should continue to rely upon its current system of individually negotiated contracts regarding interconnection arrangements?

- Whether CMRS licensees should be required to provide resale to non-facilities based competitors in the licensee's service area and/or facilities-based competitors that have held licenses for less than five years?

By classifying PCS as CMRS, the Commission hopes to achieve its goals of universality of service, speedy deployment of PCS, promoting diversity of service and fostering competitive delivery. Moreover, CMRS status for PCS is intended to accomplish Congress' intent in enacting the Omnibus Budget Reconciliation Act of 1993 by establishing regulatory symmetry among mobile service providers.

3. Section 208 Complaint Procedures

Under Section 208 of the Communications Act, customers, competitors, and other entities may file formal or informal complaints against a carrier. The nature of the complaint triggers differing regulatory obligations and procedures.

Informal complaints. When an individual or other entity files an informal complaint with the FCC, it usually is submitted in letter form. The FCC then forwards the complaint to the carrier, requesting a resolution of the matter or other response within thirty days. If the carrier's response does not satisfy the complainant, the FCC staff often will pursue informal mediation efforts in an attempt to resolve the matter. If the situation cannot be concluded on an informal basis to the satisfaction of all involved parties, the FCC may recommend to the complaining party that it file a formal complaint.

Formal complaints. The filing of a formal complaint with the FCC triggers the application of modified trial-type proceedings. The carrier against whom the complaint is filed has an opportunity to file an answer, and also to submit its own claims if appropriate. Written interrogatories are specifically contemplated by the FCC's rules, although depositions and similar types of discovery must be specifically requested and justified.

The FCC encourages parties to formal complaint proceedings to undertake mediation of the dispute to the greatest extent possible. This might include informal mediation by the staff ranging to binding arbitration by a neutral third party. From the FCC's perspective, resolution of such disputes through mediation conserves limited resources.

4. Telecommunications Relay Services Obligations

Section 225 of the Communications Act was passed as part of the Americans with Disabilities Act of 1990.[39] It requires PCS providers to provide telecommunication relay services ("TRS"), which enable hearing and speech-impaired individuals to use telephone services. TRS centers facilitate communication by translating voice messages to text and vice versa. The service is provided to speech and hearing-impaired individuals at regular telephone rates. State and federal TRS funds have been established to subsidize the cost of these services.[40]

Importantly, PCS providers are required to pay into the federal TRS fund regardless of whether they are themselves providers of telephony. PCS providers must submit FCC

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[39] Pub.L. 101-336, 104 Stat. 327, 366-69 (1990).

[40] 47 C.F.R. § 64.604(c)(4)(iii)(A).

Form 431, TRS Fund Worksheet, on an annual basis. Charges are calculated as a percentage of gross revenues for interstate services.[41] The charge is currently set at 0.03 percent of gross revenues for interstate services.[42] The costs for intrastate PCS programs may also be reimbursed by state TRS funds. PCS providers are eligible to receive payments from federal and state TRS funds if they offer TRS. However, TRS services may also be provided by a separate TRS facility, in which case the TRS facility would be eligible to receive TRS payments.

C. Permissible Communications

The FCC has restricted use of narrowband PCS spectrum for mobile communications services. In particular, broadcasting (as defined in the Communications Act) is prohibited, and fixed services may only be provided if ancillary to mobile operations. Ancillary operations include, *inter alia*, links connecting PCS base stations and other network facilities, transmission of PCS network control and signalling information, and facilities linking users' premises to PCS networks. Within these broad guidelines, licensees are permitted to offer any type of voice or data communications, including, but not limited to, acknowledgement paging, voice paging, advanced messaging, and one-way signaling.

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[41] *CMRS Second R&O*, 9 FCC Rcd at 1488.

[42] Further Forbearance from Title II Regulation for Certain Types of Commercial Mobile Radio Service Providers, 9 FCC Rcd 2164, 2168 (1994).

D. Conditions of Authorizations

1. License Term and Renewal

PCS licenses are granted for a term of ten years, with a significant renewal expectancy. The provisions regarding renewal expectancy are similar to the rules for cellular service. A renewal applicant involved in a comparative renewal proceeding shall receive a preference, commonly referred to as a renewal expectancy, if its past record for the relevant license period meets two criteria. First, the renewal applicant must have provided "substantial" service during its past license term. "Substantial" service is defined as service that is sound, favorable, and substantially above a level of mediocre service that might just minimally warrant renewal. Second, the applicant must have substantially complied with applicable Commission rules and policies and the Communications Act. A grant of a renewal expectancy is the most important comparative factor to be considered in a comparative renewal proceeding.

2. Build-Out Requirements

The Commission has imposed build-out requirements on narrowband PCS licensees to ensure that spectrum is not used inefficiently. These build-out or construction requirements for narrowband licensees vary with the type of license. The requirements for each license type are set out below:

TABLE 11: NARROWBAND PCS BUILD-OUT REQUIREMENTS		
License Area	5 Year Minimum Coverage Requirement	10 Year Minimum Coverage Requirement
Nationwide	750,000 sq. km or 37.5 percent of the U.S. population	1,500,000 sq. km or 75 percent of the U.S. population
Regional	150,000 sq. km or 37.5 percent of the population in the Region	300,000 sq. km or 75 percent of the population in the Region
MTA	75,000 sq. km or 25 percent of the MTA area or 37.5 percent of the MTA population	150,000 sq. km or 50 percent of the MTA area or 75 percent of the MTA population
BTA	BTA licensees must construct at least one base station and begin providing service in their BTAs within one year of the initial license grant date.	

Failure to meet the listed construction benchmarks will result in forfeiture of the license and ineligibility to reacquire it. Licensees should also note that a transfer or assignment of a system license does not toll the construction deadlines, and consequently transferees and assignees will be held to the construction requirements imposed on the original licensee.

In order to demonstrate compliance with the build-out requirements, nationwide, regional, and MTA licensees must provide a coverage map and other supporting documentation at the five-year and ten-year deadlines. BTA licensees need only file a statement indicating commencement of service. To determine the reliable service area contour for the build-out requirements, licensees may use the signal contour specified by the following formula:

$$d_{km} = 2.53 \times h_m^{0.34} \times p^{0.17}$$

where d_{km} is the radial distance in kilometers, h_m is the antenna HAAT of the base station in meters, and p is the e.r.p. of the base station in Watts. If licensees do not believe the contour provided by this calculation is an accurate reflection of actual service, licensees may use any service radius contour formula developed or generally used by industry, provided that such formula is based on the technical characteristics of the system.

E. Transfer and Assignment of PCS System Licenses

1. Procedures for Transfer of Control and Assignment of Authorizations

The Communications Act and the FCC's rules require a licensee first to seek and receive FCC approval before a transfer of control or assignment of license may be undertaken. At the simplest level, a transfer of control consists of a transfer of the majority of stock in a corporation or the majority of partnership interests or a general partnership interest to another party. As discussed below, however, other actions short of transferring a majority interest may also trigger a transfer of control. An assignment of license, on the other hand, involves a transfer of the license itself to an entity -- whether an individual, partnership, or corporation -- other than the current licensee. Thus, in a transfer of control, the licensee nominally remains the same, but the party or parties dominating the affairs of the licensee are changed. In an assignment, the licensee itself is a different entity.

There are two categories of transfers and assignments -- *pro forma* and substantial. Examples of *pro forma* transactions include:

- The assignment of the license from a corporation to a partnership controlled by that corporation;
- The transfer of control of the licensee from an individual to a corporation controlled by that individual; or
- The assignment of the license from one corporation controlled by an individual to a different corporation controlled by that individual.

Substantial transfers of control and assignments of license involve a transaction with a party not related to or affiliated with the licensee.

Applications seeking FCC approval of the transfer of control of a PCS licensee or the assignment of a PCS license will be filed on FCC Form 490.[43] The purpose of this application is to describe the nature of the contemplated transaction, to identify the proposed transferee or assignee and show that it is qualified to hold the authorization, and to demonstrate that approval of the proposed transfer or assignment is in the public interest. The application form also requires the submission of FCC Form 430 as part of the application package.

Applications proposing a substantial transfer of control or assignment of license must be placed on public notice for 30 days prior to FCC action. This public notice period permits the filing of petitions to deny by interested parties seeking to show that the proposed transferee or assignee is not qualified or that the contemplated transaction is inconsistent with the public interest. In the event that no petitions to deny are filed, the application grant can be reflected in a public notice of the FCC's action. Should any petitions to deny be filed,

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[43] A summary of FCC forms and fees for narrowband PCS is attached as Appendix A.

the FCC will need to review the arguments and prepare a written order.[44] *Pro forma* applications, on the other hand, may be granted without prior public notice, but remain subject to the subsequent filing of petitions for reconsideration.

Upon receiving Commission consent to a proposed transfer of control or assignment of license, the FCC's rules require that the transaction be completed within a specified period after the grant of consent. Although no specific time period is provided under Part 24 of the Commission's rules, analogous consents under Part 22 provide a 60 day period for consummating the transaction and notifying the Commission by letter. It is possible to request an extension of this closing period upon making the appropriate showing of the need for additional time.

Finally, where the authorization involved was awarded by means of competitive bidding, the applicants must submit the associated contracts for sale, option agreements, management agreements, or other documents disclosing the total consideration received for the transfer of control or assignment of license. The Commission will review this information to monitor for unjust enrichment to the original holder of the license. The FCC has indicated that it will give close scrutiny to auction winners that have not yet begun commercial service and who seek approval for a transfer of control or assignment of license within three years of the initial license grant.

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[44] In the event that a petition to deny is filed, the applicants may seek to settle the dispute with the petitioning party. If the parties reach agreement and the petitioner withdraws its petition to deny, the FCC's rules limit the funds or other consideration to be received by the petitioner to the legitimate and prudent expenses incurred in the pursuit of the objection. The parties must make a showing to this effect, and the Commission must approve the settlement arrangement.

2. Ensuring Compliance With Ownership and Control Obligations

Under FCC policies, a licensee is expected to remain in control of its licensed facilities at all times. It is not sufficient for the licensee to retain legal (*de jure*) control; it also must possess control in fact (*de facto*).[45] While a licensee is permitted to delegate certain functions and to employ other entities to perform certain construction and operational duties, the FCC has set forth six factors to be reviewed to determine whether the licensee has retained *de facto* control of its authorization and related facilities and operations. These factors are:

- Does the licensee have unfettered use of all facilities and equipment?
- Who controls daily operations?
- Who determines and carries out the policy decisions, including preparing and filing applications with the FCC?
- Who is in charge of employment, supervision, and dismissal of personnel?
- Who is in charge of the payment of financing obligations, including expenses arising out of operating? and
- Who receives monies and profits derived from the operation of the facilities?[46]

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[45] It is possible for a licensee to seek Commission consent to a transfer of *de facto* control to another entity, although such proposals have rarely been presented to the Commission in the common carrier mobile services context.

[46] *See* Intermountain Microwave, 2 Rad. Reg. 2d (P & F) 983, 984 (1963). The FCC, at the direction of the Court of Appeals for the District of Columbia Circuit, has initiated a proceeding to review these factors and their application to licensees and their operations. *See also* Implementation of Sections 3(n) and 332 of the Communications Act -- Mobile Service Regulation, GN Docket 93-252 (Nov. 18, 1994) (discussion of attribution of management agreements and joint marketing arrangements).

As these factors indicate, the determination of whether a licensee has maintained *de facto* control of its license is specific to the circumstances of a particular situation. As a result, the Commission undertakes a case-by-case analysis of the particular facts before it.

The primary area in which questions of *de facto* control arise is in the context of management agreements used by licensees in connection with the construction and/or operation of their system.[47] Licensees should also note that, even though a particular management agreement may not explicitly give rise to an attributable interest under the Commission's prior orders on spectrum caps, the management agreement may nonetheless constitute a *de facto* transfer of control. Accordingly, before undertaking any sort of management arrangements with another entity, a licensee should ensure that the terms of the agreement comply with the Commission's current policies.

3. Trafficking Considerations for Designated Entities

While there are no universal restrictions on transfer of control or assignment of narrowband PCS licenses, the FCC has adopted certain restrictions on alienation of licenses obtained by designated entities pursuant to preferences. First, if a small business paying for a license in installment payments seeks to transfer that license to an entity that would not have qualified for installment payments in the auction (*i.e.*, a non-small business entity), the remaining principal balance must be repaid as a condition of the license transfer. Second, if a women-owned or minority-owned business seeks to transfer a license obtained with bidding

[47] *De facto* control issues can arise in other situations, however. For example, a limited partner that also possesses an option to acquire *de jure* control of a partnership licensee might seek to leverage its legal rights into an exertion of control over the licensee's behavior.

credits to an entity that would not have qualified for bidding credits in the auction, some or all of the bidding credit must be repaid according to the following schedule:

TABLE 12: DESIGNATED ENTITY PENALTY PROVISIONS FOR LICENSE TRANSFERS TO NON-QUALIFYING ENTITIES	
Year of License Term	Percentage of Bidding Credit To Be Repaid
Years 1 and 2	100 percent
Year 3	75 percent
Year 4	50 percent
Year 5	25 percent
Years 6 through 10	0 percent

Finally, businesses owned by women or minorities that obtain a narrowband PCS license through the benefit of tax certificates are not permitted to assign or transfer control of the license to a business that is not women-owned or minority-owned for a period of one year from the date of grant.

F. Regulation of Base Station Sites and Antenna Structures

Unlike many other radio services, the FCC does not require routine prior approval for new narrowband PCS facilities. Narrowband PCS operators are granted a blanket license that allows for deployment of facilities anywhere within their licensed service areas subject to the technical limitations described in Section IV. As described below, there are a few instances, however, where the prior approval is required by the FCC, local governments, or other entities.

1. Marking and Lighting of Antenna Structures

Compliance with tower safety requirements is strictly enforced and the FCC has the authority to ensure that licensees are complying with the marking and lighting obligations. These important regulatory obligations cannot be delegated to a contractor; any failure on the part of the contractor or tower owner to maintain full compliance with the FAA and FCC obligations during the construction and continued operation of the tower remains the responsibility of the licensee. Due to the hazards to air navigation, the FCC views any failure to comply with these duties to be a serious breach of a licensee's obligations, leading possibly to substantial forfeitures and even revocation of license. Before undertaking any construction of tower facilities, a licensee therefore *must* ensure its activities are and will continue to be in full compliance with both the FAA and FCC requirements.

a. Federal Aviation Administration ("FAA") Requirements

Notification to the FAA of new or modified radio tower facilities is required prior to construction where the proposed antenna structure might constitute a hazard to air navigation. Generally, such notification is required where the proposed structure is:

- Located on airport grounds; or
- Greater than 200 feet in height; or
- Located within the glide path to a nearby airport runway.

Notification is not required, however, if the proposed antenna structure is shielded by an existing permanent structure of greater or equal height, or the proposed modification is 20 feet or less and is not increasing the height of an antenna structure.

If notification is required, the notice must be submitted to the FAA on FAA Form 7460-1. Approval by the FAA generally takes approximately two to three months and will include references to specific paragraphs in the FAA's *Obstruction Marking and Lighting Guide* (May 1991) for the painting and illumination of potential air hazards. Occasionally the FAA may also require the filing of supplemental notices when construction begins and when the tower reaches its greatest height (on FAA Forms 7460-2 Parts 1 and 2).

b. FCC Requirements

The FCC's tower and antenna structure safety regulations in Part 17 of the Commission's rules parallel, and overlap with, the FAA's requirements. Thus, any proposed structure that would require FAA notification will also require prior approval by the FCC. Under the FCC's narrowband PCS rules, licensees proposing facilities that require FAA notification are required to file an FCC Form 864, which requests antenna marking and lighting instructions from the FCC's Antenna Survey Branch. These requirements should, however, conform both to the instructions in Part 17 of the FCC's rules and any marking and lighting instructions received from the FAA.

2. Environmental Impact Considerations

Under the National Environmental Policy Act of 1969, the FCC is required to assess the effect of any new or modified facilities that might have "a significant effect upon the quality of the human environment." Such assessments are required where the proposed facilities:

- Are located in an official wilderness area or wildlife preserve or may affect or jeopardize threatened or endangered species;
- May affect historical sites or structures or Indian religious sites;
- Are located in a flood plain;
- Will involve a significant change in surface features during the course of construction;
- Are located in a residential neighborhood and will be equipped with high intensity white lights; or,
- Will result in human exposure to radiofrequency radiation in excess of applicable safety limits.

In such cases, an Environmental Assessment must be prepared by the entity proposing new or modified facilities.

An Environmental Assessment must explain the consequences of the proposal and provide sufficient analysis for the FCC to determine whether the proposed construction will have a significant impact upon the quality of the human environment. If the FCC determines that the proposed construction will have a significant environmental impact, the licensee will be provided an opportunity to amend its proposal to reduce or eliminate the problem. If the

problem cannot be eliminated, the FCC will prepare an Environmental Impact Statement that will be subject to public comment.

3. Electromagnetic Energy Emissions Limits

Although the health effects of electromagnetic energy from FCC licensed facilities is typically regulated under the FCC's environmental impact regulations, PCS licensees are subject to a separate obligation to ensure that their facilities meet a more stringent emissions limitation. At the time the PCS rules were adopted, the FCC was in the midst of a rulemaking proceeding (ET Docket No. 93-62) to change the basis of its electromagnetic energy exposure limits from the 1982 ANSI C95.1 standard the to 1992 ANSI/IEEE C95.1 standard. Until that rulemaking is completed, which is anticipated to be in the first quarter of 1995, PCS licensees are specifically required to ensure that their facilities and equipment meet the exposure limits, as appropriate, for controlled and uncontrolled environments set forth in the 1992 ANSI/IEEE C95.1 standard. Sample calculations showing the application of the 1992 ANSI/IEEE standard are shown in Appendix B.

4. Local Zoning

Although the FCC has jurisdiction over the licensing of radio facilities, PCS licensees remain subject to local zoning ordinances with respect to the placement of antenna facilities and towers. These requirements vary greatly among localities. In recent years, there has been an increased tendency on the part of many communities to adopt very restrictive controls on the placement of antennas and associated towers, for aesthetic as well as