

**AMSC SUBSIDIARY CORPORATION**  
 Comments on 2 GHz Licensed PCS

**Interest:**

- Licensee of U.S. mobile satellite system.

**Band Plan:**

- Proposes the following spectrum allocation for licensed PCS services (p. 7):

Channel Block A: 1850-1865/1930-1945 MHz  
 Channel Block B: 1865-1880/1945-1960 MHz  
 Channel Block C: 1880-1895/2110-2125 MHz

This plan differs from the Commission's proposal in only one regard: one of the 15 MHz pairs in Channel Block C would be located at 2110-2125 MHz rather than 1960-1975 MHz. (p. 8)

- Proposes an immediate allocation of the 1970-2010 MHz (earth to space) and the 2160-2200 MHz (space to earth) frequency bands to mobile satellite service ("MSS"). Further proposes that the 1960-1970/2125-2150 MHz bands be allocated as reserve spectrum for MSS. (p. 8)
- Would retain the proposed allocation of 1910-1930 MHz band for unlicensed PCS. (p. 8)

**Other:**

- Generally supports the Commission's proposal to allocate spectrum for terrestrial PCS but is concerned that the proposed allocation of 1970-1975 MHz would render unusable for MSS the allocation of spectrum to MSS by the 1992 WARC. (p. 2)
- Notes that its proposal would be in full conformance with WARC allocations and would help alleviate the need for MSS spectrum. (p. 9)
- Argues that MSS spectrum allocation should be in close proximity to terrestrial PCS allocations in order to facilitate interoperability between satellite and terrestrial systems with common user terminals. (p. 6)

**ANCHORAGE TELEPHONE UTILITY**  
Comments on 2 GHz Licensed PCS

**Interest:** Wireline local exchange company and cellular service provider.

**Cellular carrier participation:**

- Cellular licensees, including LECs, should be eligible for PCS licenses within their respective service areas because these companies are best able to implement PCS service quickly and efficiently. (p. 5).
- Cellular licensees cannot thwart the development of PCS since the FCC plans to grant at least three licenses for each PCS service area. Undue market concentration can be prevented by FCC approval of mergers on a case-by-case basis. (pp. 5-6).

**Local exchange carrier participation:**

- Supports LEC participation in the provision of PCS services because the economies of scope realized and the ease of interconnection will lead to the rapid development of PCS. (pp. 1-3).
- If PCS ever becomes a competitor of local wireline exchange service, LECs will not have the ability or incentive to frustrate the development of PCS. (pp. 3-4).

**ASSOCIATED PCN COMPANY**  
Comments on 2 GHz Licensed PCS

**Interest:** PCS proponent

**Band plan:**

- Because different blocks of spectrum have differing numbers of incumbent microwave users, the Commission should adopt procedures to ensure parity in PCS allocations. For example, each licensee could operate in the entire PCS allocation with a frequency coordination requirement, or a negotiation process could be used to sort out rights to particular blocks of spectrum (4).

**Amount of spectrum per licensed system:**

- The Commission should license two PCS providers with 40 MHz each. Because of competition in the land mobile marketplace, more than 2 PCS providers would weaken competition. 40 MHz is necessary given the spectrum sharing environment (2-4).

**Cellular carrier participation:**

- Supports proposal to exclude cellular carriers from PCS participation inside their service areas since cellular carriers can already provide PCS. This ineligibility should not be extended to entities that hold minority, non-controlling interests in cellular carriers (such as those 20 percent or less) (12-13).
- If PCS licensees are allocated 40 MHz of spectrum, cellular licensees should be allocated more than their existing 25 MHz to give them enough capacity to compete in the provision of PCS (13-14).

**Local exchange carrier participation:**

- Agrees with the Commission that LECs should not be barred from PCS participation. The Commission should adopt structural and non-structural safeguards, such as separate subsidiary requirement and joint cost accounting, so that any anticompetitive potential on the part of LECs can be controlled (14).
- Strongly opposes the Commission's alternative proposals to set aside 10 MHz of unassigned PCS spectrum for LECs or allow them to acquire up to that amount (14).

**Licensing policies:**

- Opposes limits on holding multiple PCS licenses (7-8).

- Supports a long license term and a reasonable renewal expectancy (8).
- Supports a lottery process with stringent "front end" requirements and other anti-speculation safeguards, including a very high non-refundable filing fee, a legally binding firm financial commitment, complete technical showings, and a detailed real-party-in-interest certification (16-19).
- The Commission should also establish minimum initial system proposal requirements, require that no party to a PCS application have any interest in another application for that market, and prohibit transfers of any ownership interest associated with a pending PCS application as well as set limits on transfers after grant (16-20).
- The Commission should also require aggressive construction and operational benchmarks (19-20).

**Regulatory status:**

- A PCS licensee should be permitted to elect private carrier or common carrier status depending on the services it provides (8-11).
- Agrees that PCS licensees should have a federally protected right of interconnection to the PSTN on a basis no less favorable than that afforded by the LEC to any other customer. Also suggests that a "calling party pays" policy be implemented (20-21).
- The Commission should not preempt the states with respect to interconnection, but rather require adherence to guidelines that will ensure uniform treatment (21).

**Plan for relocation of existing users:**

- Submits that no restrictions should be placed on relocation negotiations (22).

**Technical standards:**

- Maximum technical flexibility and an open network architecture approach will best promote growth and development. Spectrum parameters and interference criteria should be the only limits (5).
- Supports proposal to permit licensees to channelize their assigned blocks as they see fit (6).
- The Commission should not adopt any height/power limits for PCS base stations other than those necessary to control inter-system interference (7).

**ASSOCIATED PUBLIC-SAFETY COMMUNICATIONS OFFICERS, INC.**  
Comments on 2 GHz Licensed PCS

**Interest:** Association of public safety service providers.

**Licensing policies:**

- The FCC should ensure that a portion of the spectrum allocated for PCS is available for private licensure and use by public safety agencies. (pp. 5-7).

**Other issues:**

- Urges the FCC to impose appropriate requirements on PCS operations to protect the effectiveness of 9-1-1 services. (p. 5).
  - PCS systems should be able to route 9-1-1 calls automatically to the appropriate Public Safety Answering Point ("PSAP") for the microcell from which the PCS call originates -- the call must then be re-routed by the 9-1-1 operator to the appropriate jurisdiction. (pp. 3-4).
  - At a minimum, PCS should be required to provide automatic identification of the microcell from which a 9-1-1 call originates. (p. 4).
  - PCS providers should also be required to provide 9-1-1 PSAPs with subscriber data, including the number, name, and address of each subscriber, to assist public safety agencies in verifying 9-1-1 calls. (pp. 4-5).

**ASSOCIATED PUBLIC-SAFETY COMMUNICATIONS OFFICERS, INC.**  
**ARIZONA CHAPTER**  
Comments on 2 GHz Licensed PCS

**Interest:**

- Private microwave user of the 2 GHz band.

**Issues:**

- States that it does not have the fiscal capability to replace its microwave infrastructure and expresses concern that its public safety systems may receive interference from PCS. (p. 1)
- Expresses concern about PCS gaining access to its 9-1-1 public safety answering points. Indicates that the 9-1-1 network is often choked by large numbers of calls reporting the same major incident and states that this problem would be minimized if PCS could access the network by alternative means. (p. 1)

**ASSOCIATION OF AMERICAN RAILROADS**  
Comments on 2 GHz Licensed PCS

**Interest:** Railroads (relying on fixed microwave systems)

**Technical standards:**

- An industry advisory committee on PCS is not necessary so long as the interference protection criteria embodied in the EIA/TIA Standard 10-E and in Section 94.63 of the FCC's rules are adopted as the criteria for coordination between PCS and 2 GHz fixed microwave facilities. (pp. 1-2).
- FCC should also adopt a requirement that the interference calculation take into account the number of PCS transmitters likely to be in operation, and require subsequent re-coordination upon the addition of transmitters in excess of that number. (p. 2).
- Supports the FCC's adoption of limits on the power and antenna height of PCS facilities, as well as the coordination distances for fixed microwave operation within the interference range of a PCS facility. Of the two power and height limits proposed by the FCC, the lower limit will better reduce the risk of interference. (pp. 3-4).

**BELL ATLANTIC PERSONAL COMMUNICATIONS, INC.**  
Comments on 2 GHz Licensed PCS

**Interest:** Bell operating company PCS affiliate

**Band plan:**

- The FCC should allocate five licensed systems with 20 MHz each and 20 MHz for unlicensed services. (38-39)
- The FCC should consider future allocations of additional spectrum for PCS systems. (40-41)
- The FCC's proposal favors FDD schemes, but multipath, asymmetrical use, future flexibility and internal sub-band efficiencies may be realized by allocating contiguous blocks, e.g., 1850-1874, 1874-1898, 1898-1910/1930-1942 (paired), 1942-1966, and 1966-1990 MHz. (41-45)

**Amount of spectrum per licensed system:**

- Five licenses minimizes any potential threats to competition; maximizes benefits of competition; promotes efficiency; permits the market to determine the optimal number of competitors (subject to antitrust laws). (32-35)
- Even though dividing the 90 MHz proposed among 5 competitors reduces "blocking probability" efficiencies by only 2.1 percent, 20 MHz should be given to each licensee. (37-38)

**Service areas:**

- National licensing offers great efficiencies; facilitates roll-out of uniform, interoperable services; eases manufacturing development of equipment; promotes rapid investment; eases interference coordination; maximizes efficient channel management; promotes new service offerings by having a large customer base to make marginal services viable; is supported by international experiences; and can assure diversity and localism when used in conjunction with another regional or local (preferably MSA/RSA) licensing scheme. (15-28)

**Cellular carrier participation:**

- Cellular carriers should be eligible in-region because there are integration efficiencies; PCS and cellular are different; anticompetitive concerns that arise can be dealt with through regulation; history demonstrates entry restrictions disserve the public interest; and barring cellular would create disincentives to help PCS. (5-12)

**Local exchange carrier participation:**

- LECs should have full and equal participation in PCS because LECs need PCS technology to support universal service; and LECs are well-positioned to offer PCS. (12-14)

**Licensing policies:**

- Absent auction authority, comparative hearings are best for selecting national licensees, in conjunction with the highest legally defensible filing fees and streamlined features. (28-30)
- Limits on licenses or spectrum would cripple a spectrum aftermarket, and thus constrict competition. (35-36)

**Regulatory status:**

- The question of whether PCS should be private or common carrier misses the more fundamental issue -- all land mobile services should be treated alike, including paging and two-way messaging. (30-31)

**Technical standards:**

- TSB10E is too conservative for a variety of technical reasons and should only be used as a guideline. (45-48)
- Power limits of 7 and 500 watts for mobiles and base stations appear appropriate, as long as variances are provided for and intersystem negotiations are permitted, and licensees use no more power than needed to achieve a raw bit error rate ("BER") of  $10^{-6}$ . (48)
- The coordination distances specified are too large because they do not recognize differences in antenna gain. (48-49)
- PCS-to-PCS interference should be specified as protecting a BER of  $10^{-5}$  at the boundary of a license area. (49)

**BELLSOUTH**  
Comments on 2 GHz Licensed PCS

**Interest:** Provider of local exchange and mobile service;  
possible provider of PCS.

**Band plan:**

- Supports authorizing five 20 Mhz licensees to create a diversity of approaches and services, and speed deployment of PCS. (pp. 20-23).
- Supports FCC's proposal to allocate 10 MHz for wireless local loop applications, and advocates reserving the opportunity for an additional allocation of 5 or 10 MHz. (pp. 23-24).

**Amount of spectrum per licensed system:**

- Concurs with Telocator's analysis that 20 MHz will be needed for each PCS provider. (p. 21).

**Service areas:**

- Supports the use of MSAs and RSAs as the PCS market areas for licensing purposes in order to ensure service that meets the needs of the local communities and to adopt a familiar standard. The localized nature of PCS is poorly suited to large area licenses. (p. 30-39).

**Cellular carrier participation:**

- Supports full PCS eligibility for cellular carriers because the FCC's four values (universality, speed of deployment, diversity, and competitive delivery) will be served. (pp. 43-49).

**Local exchange carrier participation:**

- Supports full PCS eligibility for LECs because these companies have the resources and experience to ensure speedy deployment of PCS service; LEC provision of PCS would also serve the FCC's other values. (pp. 49-55).

**Licensing policies:**

- Supports auctions for awarding licenses, with no restrictions on alienation of licenses, in order to encourage the most efficient use of the spectrum. (pp. 55-62).
- Each of the five licensees in a market should be independently owned to foster competition, although

there should be no restriction on ownership of the single 10 MHz local loop application license. (p. 24).

**Technical standards:**

- Opposes allowing high-power, large cell PCS because this would discourage the deployment of microcell-based services, would not be spectrally efficient and would lead to interference problems. (pp. 12-20).
- FCC should encourage industry to develop voluntary technical standards to speed deployment of PCS and lower prices. (pp. 27-29).

**Other:**

- Urges FCC to authorize new wireless service -- PCS -- based on low-power microcell services, rather than a cellular clone, with high power and large cell service; the definition of PCS and the permissible power levels should be limited accordingly. (pp. 2-20).
- If FCC's real goal is to create new cellular systems it must say so and initiate a new proceeding; if FCC does not define its agenda as creating a truly new service, it will be treating identically operating licensees differently. (pp. 62-69).

**CABLEVISION SYSTEMS CORPORATION**  
Comments on 2 GHz Licensed PCS

**Interest:** Cable television service provider

**Amount of spectrum per licensed system:**

- In making this determination, the Commission should focus primarily on the amount of spectrum a viable PCS system will require rather than the optimum number of competitors per market (6).
- The Commission should also carefully consider the pervasiveness of microwave users in the band before finalizing this proposal (7).

**Service areas:**

- Supports the use of LATAs as the geographic basis for awarding PCS licenses to strike balance between needless consolidation costs of smaller markets and the greater entry and start-up costs of larger markets (12-13).

**Local exchange carrier participation:**

- Opposes set-aside for LECs as they contain sufficient market power to stifle competition (14-15).

**Licensing policies:**

- Supports the use of lotteries with significant weighting in favor of parties who have contributed to the development of PCS through activities under developmental/experimental licenses (9-12).
- Proposes a set-aside for cable system operators. Cable operators can conserve spectrum by using their cable infrastructure to connect microcells (13-14).

**Regulatory status:**

- PCS should be regulated as a private carrier subject to federal preemption of state entry and rate regulation. Burdensome or conflicting state regulations could constrain the development of PCS (7-8).
- Supports proposal that PCS licensees have a federally protected right to interconnection with the PSTN. The Commission should also adopt a streamlined procedure to assure prompt dispute resolution (8-9).

**Plan for relocation of existing users:**

- Rather than imposing a specific timetable, the Commission should develop criteria under which existing users would be required to relocate, or convert to secondary status, only when there is both an actual need for the frequencies and no reasonable technical means to permit co-sharing of frequencies on a primary basis (4-5).
- Cablevision's experience under its experimental PCS licenses has identified potential limitations on spread spectrum technologies, standing alone, as a means to permit efficient PCS operations in the presence of a substantial number of microwave users (5). [Test results are attached as appendix.]

**Technical standards:**

- The Commission should not artificially restrict PCS applications (16-17).

**Other issues:**

- The Commission should ensure nondiscriminatory access to pole attachments for cable-based PCS systems (15-16).

**CALCELL WIRELESS INC.**  
Comments on 2 GHz Licensed PCS

**Interest:** Minority-owned PCS proponent

**Band plan:**

- Supports 2 GHz allocation for PCS (19).
- Urges the Commission to reserve the 1975-1990 and 2165-2180 MHz bands for space and ground hybrid PCS systems (20).
- Urges the Commission to reserve the 2120-2150 MHz band for future mobile satellite use (21).

**Amount of spectrum per licensed system:**

- "Assumes" adoption of proposal to assign 30 MHz to each of 3 licensees (9-10).

**Service areas:**

- Proposes markets of different sizes depending on Block -- Block A would be large areas (e.g., "major trading areas"), Block B would be smaller areas (e.g., 487 "basic trading areas"), Block C would be broken up into 10-15 large regional markets (16).

**Cellular carrier participation:**

- Cellular carriers should not be permitted to have a controlling interest in a PCS licensee providing service to any part of their cellular service area (17-18).

**Local exchange carrier participation:**

- LECs should only be allowed to provide PCS service outside their service areas because of their unfair cost advantage and control over interconnection (18-19).
- If LECs are to be allocated 10 MHz of spectrum, it should come from another portion of the spectrum than that proposed (1895-1900 and 1975-1980 MHz) to prevent thwarting terrestrial and mobile satellite technologies (18-19).

**Licensing policies:**

- The Commission should establish an "infrastructure preference" that would reserve one of the spectrum blocks to PCS applicants that meet specific criteria linked to revitalizing designated enterprise zones ("DEZs"), such as:

- providing service to a DEZ within a specific time period,
  - locating the headquarters for its PCS operations in a DEZ,
  - locating 50 percent of its branch offices and/or total work force in a DEZ,
  - employing a work force that reflects the demographics of its licensed market and includes racial minorities as a percentage of total work force equal to or greater than their percentage of the overall population in the licensed market,
  - dedicating at least 1 percent of its annual operating budget to specific education and job training programs for socially and economically disadvantaged employees,
  - providing an ownership structure where at least 10 percent of the company's common equity is owned by racial minorities, and
  - awarding 10 percent of its capital expenditures and supply contracts to firms owned by women and racial minorities, with a minimum of 5 percent of total purchases from minority-owned firms (7-14).
- PCS licenses should be awarded through a modified lottery procedure. Under this process, each block would be lotteried separately (14-17).
  - In each lottery, an applicant would increase its chances of being awarded a license if it met the criteria for an infrastructure preference (16).

**Plan for relocation of existing users:**

- Supports adoption of procedures that will permit rapid deployment of PCS and will also accommodate the legitimate spectrum needs of microwave licensees (21-22).

**Other issues:**

- The Commission must ensure universal service (4-6).

PEOPLE OF THE STATE OF CALIFORNIA AND THE PUBLIC  
UTILITIES COMMISSION OF THE STATE OF CALIFORNIA  
Comments on 2 GHz Licensed PCS

**Interest:** State regulatory agency

**Band Plan:**

- Supports a minimum of three license blocks in order to maximize competition. (p. 2)

**Cellular carrier participation:**

- Opposes acquisition of any interests in PCS licenses by incumbent cellular licensees or affiliates because of belief that cross-ownership of cellular and PCS licenses will have anticompetitive effect. (p. 2)
- States that cellular licensees are fully capable of deploying microcell PCS technologies to complement their existing cellular technologies with existing 25 MHz allocation. (p. 2)

**Local exchange carrier participation:**

- Expresses concern that LEC-PCS affiliations might restrain "competition" between wire and wireless technologies. (p. 2)
- Supports implementation of competitive safeguards available to state as well as federal regulators. (p. 2)
- States that any authority for LECs to hold PCS licenses should be predicated on absence of cellular holdings by that LEC or its affiliates. (p. 2)

**Regulatory status:**

- States that PCS may not lawfully be classified as private under existing case law. (p. 4)
- Asserts that PCS does not qualify as private land mobile radio services under Section 332(c) of the Communications Act. (p. 4)
- Regardless of private or common carrier status, PCS can be jurisdictionally identified to permit dual regulation in the same manner as all other landline and wireless services. (p. 6)
- States that federal preemption of state regulation of PCS offered on intrastate basis is not warranted regardless of how PCS is classified. (p. 4, p. 6)

**CELLULAR COMMUNICATIONS, INC.**  
Comments on 2 GHz Licensed PCS

**Interest:** Cellular licensee

**Band plan:**

- The Commission should allow the maximum number of PCS licensees in each market. (pp. 2, 7)
- PCS is still largely undefined, and Commission should not thwart the full development of the technology by unnecessarily limiting the number of providers. (p. 2) The specific demands of specific uses are still unknown. (p. 3) The Commission should look at the minimum spectrum needed to permit efficient operation. (p. 4) The Commission should also take into account economic considerations. (pp. 4-5)

**Service areas:**

- MTAs, unless Commission limits in-region participation by cellular carriers, in which case the service areas should be MSAs and RSAs. (pp. 16-20)

**Cellular carrier participation:**

- There is no economic justification for excluding cellular carriers from participating in the PCS marketplace. (p. 7) Cellular carriers have knowledge and established infrastructure that will be beneficial to PCS, consumers. (pp. 9-10)
- The Commission should not required operational separation on the part of current cellular providers as a prerequisite for entry into the PCS market. (p. 14)
- If cellular carriers are barred from participating in service areas where they provide cellular service, the Commission must use MSAs and RSAs as basis for licensing PCS. To do otherwise would result in cellular exclusion in portions of PCS service areas where they do not provide cellular service. (p. 18-20)

**Licensing policies:**

- The Commission should employ oral auctions. (pp. 22-24) Sealed bid auctions suffer from problems. (pp. 24-25)
- The Commission should limit entry into oral bidding to those applicants that have timely filed applications demonstrating their legal and technical qualifications. (p. 27) The winning bidder should be required to

demonstrate its financial qualifications soon after the auction (e.g., 30 days). (p. 27)

**Regulatory status:**

- PCS providers should be treated as co-carriers with wireline exchange carriers. (p. 29)
- PCS does not look like common carrier, does not act like common carrier, and should not be regulated as common carrier. (p. 30) Rather, PCS should be regulated as private carrier. (pp. 30-36) State regulation should be preempted. (p. 34)
- The various service providers, including cellular, PCS, SMR, and MSS, must be allowed to compete on a level regulatory playing field. The Commission thus should review the regulatory structure for cellular. (pp. 35-36)

**Technical standards:**

- The Commission should require interconnection between PCS and current communications systems on at least the same terms it provided for cellular carriers. (pp. 28-29) The Commission also should specify interoperability standards between PCS and cellular technologies. (p. 29)

**CELLULAR SERVICE, INC.**  
Comments on 2 GHz Licensed PCS

**Interest:** Cellular resale carrier

**Amount of spectrum per licensed system:**

- Three carriers should be authorized with either 25 MHz of clear spectrum or 30 MHz of shared spectrum in the 1850-1895/1930-1975 MHz band. (p. 5)

**Service areas:**

- Suggests use of MSA or smaller-sized licensing areas to facilitate entry by small and medium sized companies. (pp. 2-3)
- PCS experiments have been highly localized, and it is likely that PCS will ultimately be local in nature. (p. 4)

**Cellular carrier participation:**

- Cellular carriers should be barred in areas where they own cellular systems to promote competition in wireless services. (p. 6)

**Local exchange carrier participation:**

- LECs should be precluded from PCS overlap in the same market for competitive reasons. (p. 6)

**Licensing policies:**

- Lottery reforms should not disadvantage small and medium sized companies -- if postcard procedures are used, filing fees should not be prohibitive and applicants should have 30 days to submit complete applications. (p. 5)
- Auctions, if implemented, should not disadvantage small and medium sized companies and should allow the bids to be paid as a fixed royalty over a period of time. (p. 5)

**Regulatory status:**

- PCS must be accorded common carrier status because it will require interconnection, and will be provided for profit. (p. 7)
- PCS should not be limited to commercial users, but made available as an adjunct of local exchange and cellular networks. (p. 7)

**Plan for relocation of existing users:**

- Supports negotiated relocation, but believes that reimbursements to existing licenses should be limited to actual documented cost of moving the system. (pp. 6-7)

**Technical standards:**

- The Commission should mandate a Common Air Interface. (p. 5)
- Favors height and power limits promoting small cell designs, since the cost impact of infrastructure will be offset by greater subscriber density and because the cellular experience demonstrates that it is difficult to "cell-split" and gracefully decrease cell size. (pp. 8-9)

**CELLULAR TELECOMMUNICATIONS INDUSTRY ASSOCIATION**  
Comments on 2 GHz Licensed PCS

**Interest:** Trade association of the cellular industry.

**Band plan:**

- FCC should adopt additional bandwidth beyond the 90 MHz initially proposed to issue five licenses per market, each with 20 MHz of spectrum, and an additional 10 MHz as a future reserve. (pp. 28-30).
- FCC should err on the side of authorizing more competitors with smaller blocks of spectrum since "under-assignment" is readily corrected by the market (pp. 28-34).

**Service areas:**

- Cellular licensing areas should define the service areas of PCS licenses because this will promote the FCC's goals of speed of PCS deployment, universality of service, diversity of service, and competitive delivery. (pp. 34-57).
- Consumers will benefit from the scope and scale economies of matched PCS and cellular service areas. (pp. 57-58).

**Cellular carrier participation:**

- Allowing cellular carriers access to PCS spectrum is consistent with the FCC's open entry policies. (pp. 59-65).
- Cellular carriers' ability to provide PCS on existing cellular spectrum is severely limited. (pp. 65-67).
- Joint provision of cellular and PCS will enable carriers to realize substantial cost savings that will promote consumer welfare. (pp. 67-69).

**Licensing policies:**

- Proposes the ready transferability of PCS-allocated spectrum under a "modular" approach in which the FCC determines certain PCS property rights -- such as the amount of spectrum, frequencies operated on, geographic scope of rights -- and licensees aggregate and subdivide these rights as the market dictates. (pp. 22-27).
- Supports the licensing of PCS for a ten-year term with a substantial renewal expectancy. (p. 69).

- If auctioning is not adopted, the FCC should adopt a lottery mechanism for the assignment of PCS licenses; having learned from the mistakes in the cellular lotteries, the FCC can avoid past pitfalls. (pp. 70-71).

**Regulatory status:**

- Supports FCC's proposal that PCS be subject to minimal regulation. However, if PCS is treated as private carriage, then cellular too should be treated as private carriage. (pp. 72-77).

**Other:**

- PCS should be broadly defined as "personal communications spectrum" so that its growth is not artificially constrained. (pp. 6-13).
- Supports the proposal to liberalize Section 22.930 of the FCC's rules to allow cellular licensees to provide PCS-type services in their existing frequencies without notification requirements. (pp. 17-20).
- Attachment A: An Economic Analysis of Entry by Cellular Operators Into Personal Communication Services.
- Attachment B: Comparison of Broadband CDMA in the Cellular and Personal Communication Services Band.
- Attachment C: Micro Cellular Propagation at 1859 MHz and 900 MHz.

**CELSAT INC.**  
Comments on 2 GHz Licensed PCS

**Interest:** Potential wireless PCS provider.

**Band plan:**

- The FCC should proceed with the three blocks of spectrum it has tentatively designated as Blocks A, B and C, occupying 30 MHz each from 1850-1895 MHz and 1930-1975 MHz, for terrestrial PCS. (p. 10).
- At a minimum, the FCC must reserve the 1975-1990 MHz band and its companion band at 2165-2180 MHz for space and ground hybrid PCS system use. (p. 11).
- The FCC should also consider an alternate band pairing scheme that leaves the 5 MHz pair at 1970-1975 MHz and 2160-2165 MHz available for hybrid PCS use on a secondary basis. (p. 12).
- Assuming the FCC adopts the suggested spectrum blocks A, B and C for PCS, the 2120-2150 MHz unpaired band currently allocated for MSS use should be reserved for possible future MSS/PCS use. (pp. 12-13).

**Service areas:**

- A nationwide license is the only economically feasible service area for a hybrid PCS provider and is inherent to a satellite-based system. (pp. 13-14).

**Cellular carrier participation:**

- Supports the FCC's intent to allow cellular license holders to be eligible for PCS licenses outside their service areas but they should not be allowed to own or control PCS licenses that overlap the geographic territory covered by their cellular licenses. (pp. 17-18).

**Local exchange carrier participation:**

- LECs should not be allowed to own PCS licenses in their operating territories. (p. 19).
- Believes that providing spectrum to the LECs would be grossly unfair. (p. 18).
- If the FCC does set aside spectrum exclusively for the LECs, it should not consider the 1975-1980 MHz band for this purpose. (p. 18).

**Licensing policies:**

- Competitive bidding may be appropriate where the bid price could be paid over the life of the license term with initial payments delayed until the venture began to receive revenues. (p. 17).
- Pioneer's preferences, comparative hearings, or a negotiated rule making session among multiple qualified applicants are more effective means of awarding licenses than lotteries. (p. 17).
- The pioneer's preference program should be used to determine tentative licensees for hybrid PCS systems. (p. 14).
  - Substantial consideration should be given to those applicants and proposals that have the most promise toward contributing to American infrastructure. (p. 15).
  - One or more hybrid space and ground PCS participants should be licensed irrespective of the number of terrestrial-only PCS licenses, but the need for any more than three terrestrial PCS licenses would be obviated. (pp. 6, 11).
- The FCC should reward firms willing to guarantee diverse participation in their PCS proposals. (p. 16).

**Technical standards:**

- Requests the FCC to be flexible in setting power flux density limits as it will have an effect on system capacity -- if they are high, capacity will be increased. (p. 19).

**Other issues:**

- Requests initiation of a hybrid service and interoperability rule making to accommodate the use of hybrid space/ground technology in the emerging technologies spectrum. (p. 2).

**CENDEL CORPORATION**  
Comments on 2 GHz Licensed PCS

**Interest:** Cellular and local exchange telephone carrier

**Band Plan:**

- Supports allocation of 120 MHz in the 1850-1990 MHz band for licensed PCS (9-10).

**Amount of spectrum per licensed system:**

- By assigning 20-25 MHz per licensed system, the Commission could accommodate 5 or 6 PCS providers. Optimizing the number of service providers will maximize competitive opportunities and diversity of services (10).

**Service areas:**

- Supports MSAs/RSAs because they have been successful in the cellular context (11).
- Smaller service areas are appropriate as PCS systems are microcellular in nature. Smaller areas would also encourage the development of specialized, localized services and ensure the participation of a large number of entities (12).

**Cellular carrier participation:**

- Opposes any restrictions on cellular participation in PCS. There is no reason to assume cellular carriers would be anything but robust competitors. Further, cellular carriers have developed expertise that should be brought to bear in expanding the scope of PCS services (14-16).
- Restrictions on cellular eligibility would raise implementation issues. Non-controlling interests and minor overlaps in service areas should not bar cellular participation (16-17).
- Opposes any limitation on the amount of PCS spectrum any cellular carrier -- or other PCS applicant -- can acquire (17).

**Local exchange carrier participation:**

- Because of the valuable contributions LECs could make to the development of PCS, they should be eligible to apply for spectrum both inside and outside their telephone exchange areas (18-19).