

(Budget Act § 6002(a); 1934 Act § 309(j)(1)(emphasis added)).<sup>1</sup> The FCC may utilize competitive bidding procedures to issue licenses "only when the Commission accepts for filing mutually exclusive applications for a license and the Commission has determined that the principal use of that license will be to offer service in return for compensation from subscribers." (H.R. Rep. No. 213, 103d Cong., 1st Sess. 473 (1993), reprinted in 1993 U.S.C.C.A.N. 1088, 1162).

The Budget Act directed the FCC to:

[P]rescribe regulations to implement section 309(j) . . . within 210 days after the date of enactment . . . [and] within 270 days after such date of enactment, commence issuing licenses and permits in the personal communications service.

(Budget Act § 6002(d)(1), (2)(B)). The Budget Act does not specify the competitive procedures to be used but, rather, leaves it to the FCC to establish a "competitive bidding methodology" by regulation and to "design and test multiple alternative methodologies [for issuing licenses or permits] under appropriate circumstances." (Id. § 6002(a)(3)).

The FCC released its Notice of Proposed Rulemaking to implement the competitive bidding provisions of the Budget Act on October 12, 1993. Public comments were required by November 10, 1993. Due to the volume of the comments -- approximately 200 -- the FCC's reply date was extended from

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<sup>1</sup> Licensing was previously accomplished by lottery or through comparative hearings in an auction-like proceeding.

November 24 to November 30, 1993. Competitive bidding regulations must be prescribed by March 8, 1994.

The FCC is currently evaluating the record in this proceeding and various entities are in the process of conducting experiments on bidding methodologies. For example, NTIA advocates the use of simultaneous electronic bidding and planned to conduct a software experiment at CalTech on January 27-28 to demonstrate the feasibility of this approach. The Commission is expected to announce its general competitive bidding rules at its March open meeting. The rules will be subject to the reconsideration process.

On a related note, the Commission issued its PCS rules on October 22, 1993. These rules identify the number of PCS licenses upon which prospective licensees would be bidding, the PCS service areas available, and other matters. Sixty-six parties filed petitions for reconsideration of these rules on December 8, 1993. Public comments and reply comments on the petitions were received on January 3 and January 13, respectively. As noted above, the statutory deadline for issuing PCS licenses is May 7, 1994, 270 days after the date of enactment of the Budget Act.

III.

**Alternative Methods of Acquiring the Services of a Support Contractor to Meet Statutory Mandates**

1. **CICA in General**

CICA requires that, with certain limited exceptions, executive agencies conducting a procurement for supplies or services:

- (A) shall obtain full and open competition through the use of competitive procedures . . . and
- (B) shall use the competitive procedure or combination of competitive procedures that is best suited under the circumstances of the procurement.

(41 U.S.C. § 253 (a)(1)). These provisions are implemented in the FAR which applies to the acquisition of all goods and services obtained by an executive agency, such as the FCC, pursuant to a contract that obligates the Government to expend appropriated monies. (FAR §§ 1.103, 2.101, 6.101). The phrase "competitive procedures" refers to procedures under which an agency enters into a contract pursuant to full and open competition. (41 U.S.C. §§ 259(b)(2), 403(b)). A contract is deemed to be awarded pursuant to full and open competition when all responsible sources are permitted to compete for the product or service being acquired. (41 U.S.C. § 403(7); FAR § 6.003).

CICA also provides that an agency may use other than fully competitive procedures in seven specific circumstances: (1) only one specific source can satisfy the Government's needs, (2) competition must be restricted due to unusual and compelling circumstances, (3) to facilitate industrial mobilization, (4) to comply with a treaty or international agreement, (5) when expressly authorized by statute or for brand-name commercial items for resale, (6) to protect National Security, and (7) when deemed in the Public Interest by the agency head. (41 U.S.C. § 253(c); FAR § 6.302). However, an agency is prohibited by CICA from using these procedures on the basis of "lack of advance planning" on the agency's part. (41 U.S.C. 253(f)(5)(A); FAR § 6.301(c)).

**2. The Public Interest Exception to Full and Open Competition**

The so-called "Public Interest" exception appears applicable here. This exception may be invoked when the head of an agency:

- (A) determines that it is necessary in the public interest to use procedures other than competitive procedures in the particular procurement concerned, and
- (B) notifies the Congress in writing of such determination not less than 30 days before the award of the contract.

(41 U.S.C. § 253(c)(7); accord, FAR § 6.302-7). Certain procedural prerequisites apply to this exception: (i) the

decision by an agency head must be supported with a determination and finding ("D&F") prepared pursuant to subpart 1.7 of the FAR; (ii) the D&F must be signed by the agency head (this responsibility cannot be delegated); (iii) Congress must be notified not less than 30 days before award of a contract; and (iv) this exception may only be used when no other exception to competition applies. (FAR § 6.302-7).<sup>2</sup>

Of particular interest to the issues faced by the FCC is a recent decision of the General Accounting Office ("GAO") denying a protest that involved, among other things, an agency head's decision to limit competition on the basis of the public interest exception. (See Affiliated Precision Services, Inc., B-253757, 1993 WL 437173). Although the particular issue raised by the protester in Affiliated Precision was its classification as other than a small business, it was decided in the context of the NASA Administrator's reliance on the Public Interest exception in order to comply with a statutory goal:

The agency explains that this procurement was set aside for SDB concerns to meet NASA's statutory goals, as set out in the Department of Veterans Affairs and Housing and Urban Development and Independent Agencies Appropriations Act

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<sup>2</sup> The term "agency head" shall mean the head or any assistant head of any executive agency, and may at the option of the Administrator include the chief official of any principal organizational unit of the General Services Administration.

(41 U.S.C. § 259(a)).

of 1993, Pub. L. No. 102-389, 106 Stat. 1571, 1610 (1992), that 8 percent of the total value of NASA's prime contracts and subcontracts be awarded to SDB firms . . . . NASA further explains that the set-aside was conducted pursuant to a determination made under 10 U.S.C. 2304(c)(7) (1988) [the DoD and NASA counterpart to 41 U.S.C. 253(c)(7)] that it is in the public interest to use other than competitive procedures for this procurement.

(Id. n. 1).<sup>3</sup>

In the context of a procurement protest, a determination by the head of an agency to limit competition in the public interest will not be reviewed by the GAO. (See Acumenics Research and Technology, Inc. -- Contract Extension, B-224702, 87-2 CPD ¶ 128). However, a protest will be entertained by the GAO if the agency head does not follow the procedures prescribed by CICA and implemented by the FAR. (See id. (protest sustained because agency head did not comply with 30-day Congressional "report and wait" requirement)).

It would appear that if the GAO in Affiliated Precision did not contest the use of the Public Interest exception to comply with a statutory goal of increasing small business

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<sup>3</sup> Agency heads have also limited competition citing the Public Interest exception in non-statutory contexts, such as for the design and procurement of chemical/biological masks (Ames-Avon Industries -- Recon., B-227839, B-227839.4, 87-2 CPD ¶ 150), and for the construction of family housing in the Philippines to support political and economic objectives (Zublin Delaware, Inc., B-227003, B-227003.2, 87-2 CPD ¶ 149).

participation in federal procurements, it would not entertain a protest questioning the use of the Public Interest exception to comply with a statutory mandate, especially in view of GAO's position that it will not review such discretionary decisions of an agency head. (See Acumenics, supra).

3. Unusual and Compelling Urgency Exception

CICA also recognizes that an executive agency may limit competition on a particular procurement:

When the agency's need for the supplies or services is of such unusual and compelling urgency that the Government would be seriously injured unless the agency is permitted to limit the number of sources from which it solicits bids or proposals . . . .

(41 U.S.C. § 253(c)(2); FAR § 6.302-2(a)(2)).

As with the Public Interest exception, the FAR prescribes procedures for the utilization of this exception. Thus, when relying on this exception, an agency must:

- Support its decision to limit competition with a written justification and approval ("J&A"); and
- Request offers from as many sources as is practicable under the circumstances.

(FAR § 6.302-2(c)(1)-(2)). The J&A may be prepared and approved after the contract is awarded if its preparation and

approval prior to award would unreasonably delay the contract. (Id.; 41 U.S.C. § 253 (f)(2)).

Agencies have justified restricting competition pursuant to the Unusual and Compelling Urgency exception in a variety of circumstances:

- To provide test results to Congress prior to Congress' consideration of FY1988 appropriations based on Congressional direction in the FY1987 Authorization Act to "submit a plan for testing and evaluating the Bradley's combat survivability." (Fairchild Weston Systems, Inc., B-225649, 87-1 CPD ¶ 479);<sup>4</sup>
- To comply with requirements of the Clean Air Act (K-Whit Tools, Inc., B-247081, 92-1 CPD ¶ 382 (protest sustained because urgency was created by agency's lack of advance planning));
- To award a sole source contract to the only firm the agency reasonably believed could meet its needs for radioactive waste management services within the time available (RSO, Inc., B-250785.2, B-250785.3, 93-1 CPD ¶ 489); and
- To procure x-ray security screening systems for use in the federal court system (Heimann Systems Co., B-238882, 90-1 CPD ¶ 520).

The FCC has aggressively pursued the requirements of the Budget Act within the constraints of its required rulemaking procedures, and it has only now, after full public proceedings, determined that it will require the services of a support contractor. In such circumstances, it would appear

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<sup>4</sup> In Fairchild, the GAO upheld the agency's reliance on this exception in the circumstances presented but, nonetheless, sustained this exception on procedural grounds because the agency did not solicit proposals from "as many sources as is practicable under the circumstances."

that limiting competition under this exception is appropriate, since there is insufficient time for the FCC to obtain those services using full and open competition and still meet its statutory obligations.

#### IV. CONCLUSION

Either the Public Interest or the Unusual and Compelling Urgency exception to full and open competition would appear to permit an agency to limit competition to comply with a statutory requirement. The Public Interest exception requires the agency head to sign a D&F asserting that the limitation on competition is in the public interest. If the procedures prescribed in CICA and the FAR are followed, GAO will not review the agency's decision. This exception can only be used if no other exception is available.

An agency may also limit competition when faced with an Unusual and Compelling Urgency and where not doing so would cause serious injury to the Government. A decision to invoke this exception must be supported by a J&A and proposals should be solicited from as many sources as practicable. Under this exception, a sole source award is justified where

the agency reasonably believes that only one firm can meet its needs within the time available.

\* \* \*

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Demonstrating their commitment to resolving important E-911 issues, PCIA, the National Emergency Number Association (NENA) and the Association of Public-Safety Communications Officials (APCO) have agreed to work jointly on a broad range of technical and consumer issues regarding PCS access to emergency service providers, including:

- Ability to dial 911 without restriction from any PCS terminal;
- Call control or call back capability;
- Proper Public Safety Answering Point (PSAP) routing;
- Hearing impaired and TDD access; and
- Caller location information.



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DUPLICATE

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

In the Matter of )  
)  
Amendment of the Commission's ) GEN Docket No. 90-314  
Rules to Establish New Personal )  
Communications Services )

**PETITION FOR RECONSIDERATION**

RECEIVED  
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OFFICE OF THE SECRETARY

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December 8, 1993

## SUMMARY

In its *Second PCS R&O*, the Commission adopted a regulatory framework that promises to bring PCS closer to reality for all Americans. Telocator strongly supports the Commission's actions and looks forward to continuing its work with the Commission staff in ameliorating the numerous implementation issues that will undoubtedly arise as PCS is introduced. As the Commission is well aware, Telocator, principally through its broad-based membership of both existing and emerging PCS interests that includes cellular carriers, paging operators, cable system operators, interexchange and local exchange carriers, consulting engineers and equipment manufacturers, has been a leader in providing a forum to discuss the astounding number of technical and organizational issues surrounding PCS.

To this end, Telocator has reviewed the Commission's *Second PCS R&O* and is pleased to note that many of the ideas and concepts that originated in the Telocator PCS Section meetings have found their way into the Commission's rules. Given the scope and complexity of the task, it is clear that the Commission took great care in attempting to craft rules that are fair from a number of perspectives. Telocator appreciates the Commission's efforts.

Nonetheless, Telocator believes that a number of technical issues are raised in the adopted rules that are either ambiguous, confusing or that place PCS operators at a technical and economic disadvantage to other commercial mobile service providers. In order to clarify these rules and ensure the rapid introduction of new PCS systems and devices, Telocator believes the Commission should:

- ***Increase the Maximum PCS Power Levels from 62 Watts ERP to 1,000 Watts ERP for Base Stations and from 1.2 Watts ERP to 12 Watts ERP for Some Mobiles.***  
Telocator's requested increase in the power limits will improve operators' ability to

deploy high-quality, low-cost, and ubiquitous systems. Specifically, the changes are dictated by sound engineering design practices to allow balanced communications paths; will permit use of wide area transmitters to provide economic coverage in low density areas; and will facilitate the deployment of efficient spread spectrum and "smart antenna" technologies.

- ***Extend the Out-of-Band Emissions Criteria To Govern IntraPCS Interference and Clarify the Out-of-Band Emissions Measurement Rules.*** Telocator believes the out-of-band emissions limits to protect adjacent microwave bands from PCS should be extended to protect against intraPCS adjacent channel interference. In addition, the resolution bandwidth should be specified as 1.0 percent of the emissions bandwidth.
- ***Modify the PCS-Microwave Interference Criteria To Allow Greater Flexibility To Implement Industry-Derived Consensus Solutions.*** While Telocator applauds the FCC's efforts to integrate draft TIA revisions to TSB10-E into the rules, the FCC may have unintentionally constrained the industry's ability to implement consensus resolutions to PCS-microwave engineering problems. To ensure optimal deployment of PCS, Telocator believes reorienting the rules to allow greater flexibility to TIA is warranted.
- ***Clarify the Application Filing Rules.*** In the *Second PCS R&O* and the newly proposed auction rules, there are a number of discrepancies regarding the filing of site specific information. In order to clarify what is required of applicants and ease filing and processing burdens, Telocator proposes an electronic filing scheme for site-specific information and suggests changes to the accuracy required in such filings.
- ***Restate the Licensing Areas in Terms of Counties Rather Than Relying Upon a Proprietary Map System.*** The *Second PCS R&O* adopts license areas based upon maps contained in Rand-McNally's Commercial Atlas and Guide. In order to avoid problems with use of copyrighted material, Telocator suggests redefining the license areas in terms of counties included within each service area.
- ***Clarify the Mandatory Applicability of the Uncontrolled Environment Distinction for RF Exposure Evaluations.*** Telocator notes that there is a discrepancy between the text of the *Second PCS R&O*, which states that PCS handsets are deemed to operate in an uncontrolled environment, and the rules, which state that all PCS transmitters are deemed to operate in an uncontrolled environment. In this case, Telocator suggests conforming the rule language to agree with the text in the order.
- ***Increase the "Listening" Period and Frame Time in the Unlicensed Device "Listen-Before-Talk" Protocol.*** In order to accommodate the needs of some new devices, Telocator suggests extending the listening period and associated frame time from 10 to 20 milliseconds. This will permit a broader range of PCS devices to be deployed without perceptibly affecting the delay experienced by users.

Adoption of these limited modifications upon reconsideration will greatly facilitate the expeditious deployment of economic and high-quality wireless PCS systems and devices.

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

In the Matter of )  
 )  
Amendment of the Commission's ) GEN Docket No. 90-314  
Rules to Establish New Personal )  
Communications Services )

**PETITION FOR RECONSIDERATION**

Telocator, the Personal Communications Industry Association, hereby respectfully requests reconsideration of the Federal Communications Commission's Second Report and Order in the above-captioned proceeding.<sup>1</sup> In order to better promote the successful introduction of competitive and functional Personal Communication Services ("PCS"), Telocator submits these suggested modifications to the technical parameters for PCS operations.<sup>2</sup>

**I. MAXIMUM PERMITTED POWER SHOULD BE INCREASED.**

In the *Second PCS R&O*, the Commission adopted maximum power levels that it believed would accommodate most PCS operations while providing a further degree of protection to incumbent microwave facilities.<sup>3</sup> Specifically, the Commission adopted a

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<sup>1</sup> Second Report and Order, Gen Docket No. 90-314, adopted September 23, 1993, [58 Fed. Reg. 59174 (1993)] (*Second PCS R&O*).

<sup>2</sup> To the extent necessary, Telocator respectfully asks for waiver of Section 1.429(d) of the Rules which limits petitions for reconsideration to 25 double spaced pages. Although the actual text of Telocator's petition is less than 25 pages, the associated attachments result in the entire filing exceeding the page limit. Since the attachments provide pertinent information, Telocator believes that their inclusion provides benefits that far outweigh any harm caused by exceeding the page limit.

<sup>3</sup> *PCS Second R&O* at ¶156.

maximum power level of 62 Watts ERP (100 Watts EIRP) for PCS base stations and a 1.2 Watt ERP (2 Watt EIRP) maximum power level for mobile units.<sup>4</sup>

Telocator believes that the Commission's decisions are overly restrictive and will have a significant impact on the ability of PCS operators to provide economical coverage in rural and low density suburban areas. More importantly, however, sound engineering techniques necessitate higher base station powers to provide for balanced communications paths even in microcellular environments. Further, the low permitted power will prove particularly severe for systems employing time division or code division multiple access technologies ("TDMA" or "CDMA"). As detailed below, Telocator urges the Commission to raise the maximum permitted power for PCS base stations to 1,000 Watts ERP.

In addition, although the 1.2 Watt ERP limit on PCS subscriber units may be appropriate for hand-held units that operate in close proximity to the body, there are a wide variety of cases where higher powers will be needed for mobiles whose radiating elements are separated from the user, such as vehicle mounted mobiles and transportable units such as temporary phone booths. To this end, Telocator urges the Commission to also raise the maximum permitted power for such "non-proximity" mobile units to 12 Watts ERP.

**Base Station Power:** In its *Second PCS R&O* the Commission decided that providing coverage to low population density areas is an important FCC objective and required PCS operators to provide service to 90 percent of the population located within their licensed

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<sup>4</sup> *Id.* Although point-to-point microwave and the satellite services have traditionally used EIRP, the mobile services have traditionally relied upon ERP. Since PCS will be a mobile service, it would reduce confusion if Part 99 were consistent with the other mobile radio service rules, i.e., Parts 22 and 90, and standard industry practices. Thus, to reduce confusion, Telocator has restated the Part 99 Rules in terms of ERP.

service area.<sup>5</sup> Crucial to economically servicing these low density areas, however, is the ability to serve large areas with a small number of base stations. The 62 Watt ERP precludes wide area coverage and will require PCS operators to deploy hundreds of extraneous transmitters merely to satisfy their coverage requirements.

Perhaps even more important than the economic factors, the low power limit will seriously effect engineering considerations in the design of PCS systems. For example, the 62 Watt ERP limit will seriously disadvantage emerging radio technologies utilizing TDMA or CDMA technologies. If PCS systems were going to use single channel per carrier systems (such as analog AMPS or narrow band FDMA digital systems), the 62 Watt ERP limit would be far less constraining, since each individual voice channel would have full use of the allowed 62 Watts. In contrast, radio technologies utilizing TDMA and CDMA must share the same 62 W ERP limit among multiple voice channels.<sup>6</sup>

Imposing such limits on base station power also constitutes a serious barrier to the use of "smart antenna" concepts. In smart antennas, multiple elements focus or concentrate transmitted power toward the mobile unit on the downlink and directionally receive transmissions from the mobile unit on the uplink. The net effect is a significant increase in

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<sup>5</sup> *PCS Second R&O at ¶134.*

<sup>6</sup> An IS-95 CDMA system operating with a 1000 watts ERP radiates about the same amount of power as an N-AMPS system (or a 10 kHz FDMA digital system) operating over the same amount of spectrum at 62 watts per channel. The CDMA transmitter would occupy 1.25 MHz with a power of 1,000 watts. In contrast, an N-AMPS system with 10 kHz channels would use the same 1.25 MHz for about 18 separate base station transmitters (assuming a frequency reuse factor of 7). At 62 watts per channel, the N-AMPS system would radiate a total ERP of 1,116 watts. Although the total radiated power is about the same, the FCC's rules would discourage the use of the more spectrum efficient technology.

An alternative approach to simply raising the ERP limit per radio channel is to specify a "power per Hz of bandwidth." This would reduce the bias against some of the newer more spectrum efficient technologies at the cost of increasing the procedural complexity of this docket.

receiver sensitivity and a more effective use of transmitted power from the base station.<sup>7</sup> In addition to extending base station transmitter range, smart antennas have the additional benefit of reducing co-channel interference to other PCS operators or to microwave receivers. Crucial to the concept of smart antennas, however, is the ability to use very high antenna gains to produce highly directionalized, higher base station ERP and allow reception of low signal strength signals from mobiles. With a base station ERP limit of 62 Watts, the additional expense of smart antennas cannot be justified. However, with significantly higher ERP limits on base stations, smart antennas can make a significant contribution towards the Commission's goal of wide area availability.

Even without the use of "smart antennas," most system deployment plans will be significantly limited by the current 62 Watt ERP limit. For example, Exhibit A provides typical link budgets for wide area coverage, i.e. situations where the call level is low enough that smaller cells are not needed to provide additional capacity.<sup>8</sup> The power link budget shows that a base station with a 316 Watt ERP can communicate with a 1.2 Watt ERP mobile with path losses up to 152 dB. Using one of the standard propagation models (COST231), these powers will allow communications for up to 13 miles in rural areas, assuming the absence of any obstructions. In urban areas the same margin will provide coverage for less than 2 miles assuming no obstructions. Factoring in building obstructions will further reduce the resultant coverage areas.

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<sup>7</sup> ArrayComm has made a formal presentation [JTC (Air)/93.1101-412] to the Joint Technical Committee on Wireless Access of T1P1.4 of the Alliance for Telecommunications Industry Solutions and TR 46.3 of the Telecommunications Industries Association. The Telocator PCS Section is also aware of several other manufacturers that have similar proposals.

<sup>8</sup> While the specific parameters of DCS-1900 are assumed in the two Exhibits, the overall conclusions are applicable to most of the systems that have been presented in the Joint Technical Committee on Wireless Access.

In cases where higher base station antenna gain is available, even higher base station ERP is appropriate. Exhibit B presents another link budget using a "smart antenna." The resulting 5 dB increase in base station antenna gain over the scenario detailed in Exhibit A results in a base station ERP of 1 kilowatt while the mobile ERP remains at 1.2 Watts. This increased base station ERP produces a corresponding 5 dB increase in allowable path loss. This would increase the rural service radius to 18 miles and double the area served. In addition, other PCS applications also benefit from increased base station antenna gain and the corresponding increase in base station ERP. For example, "ribbon coverage" on rural highways could be provided by using two high gain dishes that are pointed along the highway.

The request to use higher powers for PCS base stations is consistent with the current 800 MHz cellular rules that permit 800 MHz cellular base stations to operate with up to 500 Watts ERP.<sup>9</sup> Assuming for arguments sake alone that propagation conditions at 1800 MHz are identical to those at 800 MHz -- obviously a best case assumption -- the differences in antenna effectiveness (for the same coverage pattern) would require PCS ERP to be 5 times the cellular ERP for comparable conditions (i.e., 2.5 kilowatts ERP). Thus, Telocator's recommended ERP limit of 1 kilowatt would still place PCS at a substantial disadvantage relative to cellular in its ability to cover sparsely populated areas. This is particularly important considering that the *Second PCS R&O* mandates that by the end of the 10th year of licensing, PCS operators must provide coverage to at least 90 percent of the population in

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<sup>9</sup> Section 22.905 of the Commission's Rules.

their service area.<sup>10</sup> The adopted base station ERP limit of 62 Watts will significantly impair the ability of PCS operators to satisfy the FCC's position that broad PCS coverage is an important public interest benefit.

Telocator realizes that increasing base station power might appear to raise issues about RF exposure, protection of existing microwave stations, and service area extensions. In its *Second PCS R&O*, however, the FCC has already adopted other rules that fully address those issues independent of the maximum permitted power.

Concerns on RF exposure levels are better addressed by the imposition of the ANSI/IEEE C95.1-1992 exposure standard.<sup>11</sup> In general, however, base stations with ERP above 62 Watts would be installed on towers in areas where public access is precluded. Thus, raising the allowed base station ERP above 62 Watts will not increase exposure risks to the general public. Also, company safety procedures that are already in place will protect technicians that working in proximity to the base stations. In many cases, company procedures require that the transmitters be placed in a non-radiating condition before any access to the tower is permitted.

Furthermore, increasing allowed base station ERP will, in some cases, allow a reduction in the operating power of subscriber devices because the increase in base station ERP limits will allow the use of higher gain base station antennas. Since many PCS systems use the same antenna for both transmitting and receiving, higher gain base station antennas

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<sup>10</sup> Section 99.206 of the Commission's Rules. In contrast, the "build-out" requirements for the cellular radio service are less onerous and, in any case, do not threaten cellular operators with loss of license for failure to achieve construction benchmarks. Instead, cellular operators choosing not to provide service to a particular area of their Cellular Geographical Service Areas simply lose their authority to provide service to that area and are then subject to the filing of applications for "unserved areas." See Sections 22.43 and 22.903.

<sup>11</sup> This matter is fully addressed in ET Docket No. 93-62, Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, 8 FCC Rcd 2849 (1993).

will increase base station receiver sensitivity. Increases in base station receive antenna gain allow a 1:1 reduction in handheld transmitter power.<sup>12</sup> Thus, increasing the allowed base station ERP will promote reduced RF exposure to the general public.

Telocator also recognizes that higher PCS power limits may have some effect on the incumbent fixed microwave systems. For example, microwave stations located farther away from the PCS base station would need to be formally included in the coordination process. This, however, is easily achieved by an expansion of Table 2 in Section 99.233(a) using standard FCC formulas. Also, by increasing PCS base station power, the power received by microwave receivers could be increased. Again, the existing coordination procedures are adequate to ensure that no increase in real interference is realized. Telocator fully expects that, in many cases, the interference protection afforded to microwave facilities will preclude PCS base station operations at the proposed 1 kilowatt. Telocator submits, however, that these coordination procedures should be the limiting factor for PCS base station power and not an arbitrary government-imposed limit.

Another potential Commission concern is that PCS licensees may use higher powers to "extend" their service area beyond that licensed to them. Again, the FCC's new Rules adequately address this issue without the need for limiting power. When the language of Section 99.232 (47 dBuV/m) is combined with the text in footnote 130, it is clear that increased base station powers will no result in service extensions.

**Mobile Power.** Although Telocator understands that many PCS applications can be accommodated by a mobile ERP limit of to 1.2 Watts ERP, there likely will be important

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<sup>12</sup> All PCS mobiles will include automatic power adjustment so that the actual transmitted power is reduced to the level needed at that particular time. Even without the mandate in Section 99.231(b) of the Rules, the desire to extend mobile battery life and maximize system capacity would insure that PCS systems include automatic power adjustment.