# COMMENT SOUGHT ON RESERVE PRICES OR MINIMUM OPENING BIDS FOR THE GENERAL WIRELESS COMMUNICATIONS SERVICE (GWCS) IN THE 4660-4685 MHz BAND 

Formula Proposed for May 27 GWCS Auction

## Report No. AUC-98-19-A (Auction No. 19)

## I. Reserve Price or Minimum Opening Bid

The Balanced Budget Act of 1997 calls upon the Commission to prescribe methods by which a reasonable reserve price will be required or a minimum opening bid established when FCC licenses are subject to auction (i.e., because they are mutually exclusive), unless the Commission determines that a reserve price or minimum bid is not in the public interest. ${ }^{1}$ Consistent with this mandate, the Commission has directed the Wireless Telecommunications Bureau ("Bureau") to seek comment on the use of a minimum opening bid and/or reserve price prior to the start of each auction. ${ }^{2}$ The Bureau was directed to seek comment on the methodology to be employed in establishing each of these mechanisms. Among other factors, the Bureau should consider the amount of spectrum being auctioned, levels of incumbency, the availability of technology to provide service, the size of the geographic service areas, the extent of interference with other spectrum bands, and any other relevant factors that could reasonably have an impact on valuation of the spectrum being auctioned. The Commission concluded that the Bureau should have the

[^0]discretion to employ either or both of these mechanisms for future auctions. ${ }^{3}$
Normally, a reserve price is an absolute minimum price below which an item will not be sold in a given auction. Reserve prices can be either published or unpublished. A minimum opening bid, on the other hand, is the minimum bid price set at the beginning of the auction below whichno bids are accepted. It is generally used to accelerate the competitive bidding process. Also, in a minimum opening bid scenario, the auctioneer generally has the discretion to lower the amount later in the auction.

The Bureau recently announced the auction of 875 licenses for the General Wireless Communications Service which is scheduled to begin May 27, 1998. These licenses encompass the United States, the Northern Mariana Islands, Guam, American Samoa, the United States Virgin Islands and Puerto Rico. Specifically, the licenses include: (1) five licenses in each of 172 geographic areas known as Economic Areas (EAs); (2) five licenses in each of three EA-like areas, covering Guam and the Northern Marianas, Puerto Rico and the U.S. Virgin Islands, and American Samoa. ${ }^{5}$

In anticipation of this auction and in light of the Balanced Budget Act, the Bureau proposes to establish minimum opening bids for the GWCS auction, and retain discretion to lower the minimum opening bids.

The Bureau believes a minimum opening bid, which has been utilized in other auctions, ${ }^{6}$ is an effective bidding tool, and we propose to use this approach in the GWCS auction. A minimum opening bid will help to regulate the pace of the auction and provides flexibility.

[^1]5 See 47 C.F.R. § 26.102 (service areas).
${ }^{6}$ Seeln the Matter of Auction of 800 MHz SMR Upper 10 MHz Band, Minimum Opening Bids or Reserve Prices, DA 97-2147, Order (rel. October 6, 1997); In the Matter of Revision of Rules and Policies for the Direct Broadcast Satellite Service, IB Docket No. 95-168, PP Docket No. 93-253, Report and Order, 11 FCC Rcd 9712, 9787-9788, It 186 (1995).

Specifically, the Commission proposes the following formula for calculating minimum opening bids in Auction No. 19:

For each EA License, the minimum opening bid $=\$ 0.0030 \times 5 \mathrm{MHz} \times$ population (based on 1990 census)
with a minimum of no less than $\$ 2500.00$ per license. See Attachment B.
Comment is sought on this proposal. If commenters believe that the formula proposed above for minimum opening bids will result in substantial numbers of unsold licenses, or is not a reasonable amount, or should instead operate as a reserve price, they should explain why this is so, and comment on the desirability of an alternative approach. Commenters are advised to support their claims with valuation analyses and suggested reserve prices or minimum opening bid levels or formulas. In establishing the formula for minimum opening bids, we particularly seek comment on such factors as, among other things, the amount of spectrum being auctioned, levels of incumbency, the availability of technology to provide service, the size of the geographic service areas, issues of interference with other spectrum bands and any other relevant factors that could reasonably have an impact on valuation of the GWCS spectrum.? Alternatively, comment is sought on whether, consistent with the Balanced Budget Act, the public interest would be served by having no minimum opening bid or reserve price.

## II. Other Issues

The Bureau finds that seeking comment on other auction-related procedures for GWCS, prior to resolution of the issues raised in the Part 1 Third Report and Order and Second Further Notice of Proposed Rule Making ${ }^{8}$ would be premature. Additionally, certain issues (such as the upfront payment formula and competitive bidding design) were determined by the Commission in the 1995 GWCS Second Report and Order ${ }^{9}$ and may be further addressed by the Commission. Because the Commission is subject to a statutory deadline of August 9, 1998, for licensing GWCS, ${ }^{10}$ there is insufficient time to seek comment on auction procedures after a ruling by the Commission. Rather, the Bureau finds that in these circumstances, it is in the public interest to maximize the time available to bidders between announcement of auction procedures and the start

[^2]8 See Part 1 Third Report and Order and Second FNPRM at TIII 192-194.
9 See Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, ET Docket No. 94-32, Second Report and Order, 11 FCC Rcd 624 at 650-54, 716-17.
$10 \quad$ See 47 U.S.C. § 309(j)(9).
of the auction. Therefore, the Bureau will announce specific bidding procedures by public notice upon the release of the GWCS auction rules.

## III. Conclusion

Comments are due on or before February 13, 1998, and reply comments are due on or before February 20, 1998. To file formally, parties must submit an original and four copies to the Office of the Secretary, Federal Communications Commission, Room 222, 1919 M Street N.W., Washington, DC 20554. In addition, parties must submit one copy to Kathleen O'Brien Ham, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, Room 5202, 2025 M Street N.W., Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the FCC Public Reference Room, Room 239, 1919 M Street N.W., Washington, D.C. 20554.

For further information concerning this proceeding, contact Kathryn Garland, Bob Reagle, or Arthur Lechtman, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, at (202) 418-0660.

## ATTACHMENT A

Technical Data on the Navy Cooperative Engagement Capability (CEC) System
I. INTRODUCTION

The purpose of this annex is to describe the technical characteristics of the Cooperative Engagement Capability (CEC) Data Distribution System. The CEC, a major new networking system being developed by the military to provide connectivity between air, land, and sea units for Theater Air Defense, will operate in the bands immediately adjacent to the $4635-4685 \mathrm{MHz}$ band. In order to minimize mutual interference between the CEC system and prospective GWCS users, certain CEC technical characteristics are being made available so that GWCS equipment can be designed to reduce susceptibility to interference. While details of the overall CEC program will remain unavailable for public release, the technical parameters as described below have been recently declassified to facilitate the release of this basic data. (The point of contact at the Naval Electromagnetic Spectrum Center is Mr. Scott A. Hoschar, at (202) 764-0312, or fax (202) 764-2666. The CEC Program Office point of contact is Ms. Lalitha Avula, PEO (TAD) CB12, at (703) 602-7413, or fax (703) 602-9181.)

## II. TECHNICAL PARAMETERS

The CEC operates in the bands above and below the 4635-4685 band. In order to comply with NTIA regulations, the CEC authorized bandwidth will be contained wholly within the adjacent Federal bands so that it does not impinge upon the $4635-4685 \mathrm{MHz}$ band. To achieve this, the center frequency of any CEC transmitted signal will not fall within the range 4624 to 4696 MHz .

The CEC system employs high power transmitters with directional antennas to achieve a maximum e.i.r.p. of 58 dBW (630 kW). Under most deployment scenarios, this maximum e.i.r.p. level will be directed towards the operational areas defined below or out to sea. However, under certain conditions, this maximum e.i.r.p. value may be directed at the horizon and inland from aircraft operating in the areas defined below.

The CEC emission characteristic was designed to be spectrally efficient to exceed NTIA requirements for unwanted emissions. Specific spectral parameters are as follows:

CEC Spectrum Roll-off Characteristics at 4635-4685 MHz

Lower Band Edge

Frequency Power
(MHz) (dBW/4kHz)
$4635.00-3.8$
$4636.10-7.8$
4643.95 -17.8
$4653.00-37.8$

Upper Band Edge

Frequency Power
(MHz) (dBW/4kHz)
$4685.00-3.8$
$4683.90-7.8$
4676.05 -17.8
$4667.00-37.8$

Transmitter Noise: Between 4649.6 and 4670.4 MHz , less than -87 dBW/Hz

Harmonics and Spurious: Less than -80 dBc , that is, $d B$ below carrier power.
III. OPERATING AREAS

The location in which large numbers of CEC nodes will be operating includes a number of Naval/joint military exercise areas. CEC units will be located on ships and aircraft, and at land based sites. The normal operating areas are coastal waters and the contiguous land mass extending 30 nautical mile inland. The operating altitude of CEC-equipped aircraft will typically extend to 35,000 feet.

COOPERATIVE ENGAGEMENT CAPABILITY OPERATING AREA DESCRIPTIONS

Eight areas are identified as essential to support training with a large number of Cooperating Units in a CEC network. The significance of these areas is that airborne CEC units with high power transmitters are expected to be flown directly overhead and extending out to sea in and around existing military operational areas. The areas are as follows.
(1) The area extending 30 nautical miles (nm) inland from the Atlantic Ocean between Wilmington, North Carolina (NC) and

Lewes, Delaware (DE) facilitate Atlantic Fleet exercises. The land based CEC terminals at Wallops Island, Virginia (VA), Eastville, VA, and Dam Neck, VA are within the boundaries established for the Atlantic Fleet exercises. The Cherry Point and Onslow Bay NC areas are also included. The Naval Air Warfare Center at Patuxent River, Maryland (MD) and facilities at Greenville, South Carolina (SC), Jacksonville, Florida (FL), and St. Petersburg, FL are not included in the inland areas. The exclusion of the four sites does not preclude CEC Radio Frequency (RF) emissions at these sites.
(2) The area extending 30 nm inland from the Gulf of Mexico between the Louisiana (LA)-Mississippi (MS) state border and Panama City, FL, to support Gulf of Mexico exercises. The area includes Gulfport and Biloxi, MS, and Pensacola and Eglin AFL, FL.
(3) The area extending 30 nm inland from the Pacific Ocean between Vandenberg Air Force Base, California (CA) and Point Mugu Naval Air Station, CA, to support Pacific Fleet exercises.
(4) The area extending 30 nm inland from the Pacific Ocean between Newport Beach, CA, and the CA-Mexico international border to support Pacific Fleet exercises. The area includes Camp Pendleton, CA.
(5) The area that includes the White Sands Missile Range, New Mexico (NM) and the Fort Bliss Military Reservation, Texas (TX) and NM to support the joint Chiefs of Staff Roving Sands Exercise.
(6) The area that includes the China Lake Naval Weapons Center and the Fort Irwin Military Reservation, CA.
(7) All of Hawaii, including the Pacific Missile Range Facility.
(8) All of Puerto Rico, including the Armed Forces Weapons Test Facility.

Potentially Affected Economic Areas

The following Economic Areas appear to be within the parameters defined by the Navy as being potentially affected by
the CEC system. Estimated power levels within the $4635-4685 \mathrm{MHz}$ band should be calculated on the basis of range from the boundaries of the CEC operating areas and the technical parameters given above.

## Cooperative Engagement Capability Impacted Economic Areas

| Economic Area | Name | Economic Area Grouping |
| :---: | :---: | :---: |
| 3 | Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH-RI-VT | 1 |
| 5 | Albany-Schenectady-Troy, NY | 1 |
| 6 | Syracuse, NY-PA | 1 |
| 7 | Rochester, NY-PA | 1 |
| 8 | Buffalo-Niagara Falls, NY-PA | 1 |
| 9 | State College, PA | 1 |
| 10 | New York-No. New Jer.-Long Island, NY-NJ-CT-PA-MA-VT | 1 |
| 11 | Harrisburg-Lebanon-Carlisle, PA | 1 |
| 12 | Philadelphia-Wilmington-Atl. City, PA-NJ-DE-MD | 2 |
| 13 | Washington-Baltimore, DC-MD-VA-WV-PA | 2 |
| 14 | Salisbury, MD-DE-VA | 2 |
| 15 | Richmond-Petersburg, VA | 2 |
| 16 | Staunton, VA-WV | 2 |
| 17 | Roanoke, VA-NC-WV | 2 |
| 18 | Greensboro-Winston-Salem-High Point, NC-VA | 2 |
| 19 | Raleigh-Durham-Chapel Hill, NC | 2 |
| 20 | Norfolk-Virginia Beach-Newport News, VA-NC | 2 |
| 21 | Greenville, NC | 2 |
| 22 | Fayetteville, NC | 2 |
| 23 | Charlotte-Gastonia-Rock Hill, NC-SC | 2 |
| 24 | Columbia, SC | 2 |
| 25 | Wilmington, NC-SC | 2 |
| 26 | Charleston-North Charleston, SC | 2 |


| Economic Area | Name | Economic Area Grouping |
| :---: | :---: | :---: |
| 27 | Augusta-Aiken, GA-SC | 3 |
| 28 | Savannah, GA-SC | 3 |
| 29 | Jacksonville, FL-GA | 3 |
| 30 | Orlando, FL | 3 |
| 33 | Sarasota-Bradenton, FL | 3 |
| 34 | Tampa-St. Petersburg-Clearwater, FL | 3 |
| 35 | Tallahassee, FL-GA | 3 |
| 36 | Dothan, AL-FL-GA | 3 |
| 37 | Albany, GA | 3 |
| 38 | Macon, GA | 3 |
| 39 | Columbus, GA-AL | 3 |
| 40 | Atlanta, GA-AL-NC | 3 |
| 41 | Greenville-Spartanburg-Anderson, SC-NC | 2 |
| 42 | Asheville, NC | 2 |
| 45 | Johnson City-Kingsport-Bristol, TN-VA | 2 |
| 46 | Hickory-Morganton, NC-TN | 2 |
| 47 | Lexington, KY-TN-VA-WV | 2 |
| 48 | Charleston, WV-KY-OH | 2 |
| 53 | Pittsburgh, PA-WV | 2 |
| 54 | Erie, PA | 1 |
| 73 | Memphis, TN-AR-MS-KY | 3 |
| 74 | Huntsville, AL-TN | 3 |
| 75 | Tupelo, MS-AL-TN | 3 |
| 76 | Greenville, MS | 3 |
| 77 | Jackson, MS-AL-LA | 3 |
| 78 | Birmingham, AL | 3 |


| Economic Area | Name | Economic Area Grouping |
| :---: | :---: | :---: |
| 79 | Montgomery, AL | 3 |
| 80 | Mobile, AL | 3 |
| 81 | Pensacola, FL | 3 |
| 82 | Biloxi-Gulfport-Pascagoula, MS | 3 |
| 83 | New Orleans, LA-MS | 3 |
| 84 | Baton Rouge, LA-MS | 3 |
| 85 | Lafayette, LA | 3 |
| 86 | Lake Charles, LA | 3 |
| 87 | Beaumont-Port Arthur, TX | 5 |
| 88 | Shreveport-Bossier City, LA-AR | 3 |
| 89 | Monroe, LA | 3 |
| 90 | Little Rock-North Little Rock, AR | 3 |
| 122 | Wichita, KS-OK | 5 |
| 126 | Western Oklahoma, OK | 5 |
| 127 | Dallas-Fort Worth, TX-AR-OK | 5 |
| 128 | Abilene, TX | 5 |
| 129 | San Angelo, TX | 5 |
| 131 | Houston-Galveston-Brazoria, TX | 5 |
| 135 | Odessa-Midland, TX | 5 |
| 136 | Hobbs, NM-TX | 5 |
| 137 | Lubbock, TX | 5 |
| 138 | Amarillo, TX-NM | 5 |
| 139 | Santa Fe, NM | 5 |
| 140 | Pueblo, CO-NM | 5 |
| 141 | Denver-Boulder-Greeley, CO-KS-NE | 5 |
| 151 | Reno, NV-CA | 6 |


| Economic <br> Area | Name | Economic <br> Area <br> Grouping |
| :---: | :--- | :---: |
| 152 | Salt Lake City-Ogden, UT-ID | 5 |
| 153 | Las Vegas, NV-AZ-UT | 6 |
| 154 | Flagstaff, AZ-UT | 5 |
| 155 | Farmington, NM-CO | 5 |
| 156 | Albuquerque, NM-AZ | 5 |
| 157 | El Paso, TX-NM | 5 |
| 158 | Phoenix-Mesa, AZ-NM | 5 |
| 159 | Tucson, AZ | 6 |
| 160 | Los Angeles-Riverside-Orange County, CA-AZ | 6 |
| 161 | San Diego, CA | 6 |
| 162 | Fresno, CA | 6 |
| 163 | San Francisco-Oakland-San Jose, CA | 6 |
| 164 | Sacramento-Yolo, CA | 6 |
| 172 | Honolulu, HI | 3 |
| 174 | Puerto Rico and the U.S. Virgin Islands |  |

Proposed Minimum Opening Bid

| License | License Name | Population | Proposed MinimumOpening Bid |  |
| :---: | :---: | :---: | :---: | :---: |
| BEA001 A/B/C/D/E | Bangor, ME | 533,135 | \$ | 7,998.00 |
| BEA002 A/B/C/D/E | Portland, ME | 694,793 | \$ | 10,422.00 |
| BEA003 A/B/C/D/E | Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH-RI-VT | 7,445,016 | \$ | 111,676.00 |
| BEA004 A/B/C/D/E | Burlington, VT-NY | 568,377 | \$ | 8,526.00 |
| BEA005 A/B/C/D/E | Albany-Schenectady-Troy, NY | 1,147,154 | \$ | 17,208.00 |
| BEA006 A/B/C/D/E | Syracuse, NY-PA | 1,934,632 | \$ | 29,020.00 |
| BEA007 A/B/C/D/E | Rochester, NY-PA | 1,457,846 | \$ | 21,868.00 |
| BEA008 A/B/C/D/E | Buffalo-Niagara Falls, NY-PA | 1,529,735 | \$ | 22,947.00 |
| BEA009 A/B/C/D/E | State College, PA | 798,826 | \$ | 11,983.00 |
| BEA010 A/B/C/D/E | New York-North New Jersey-Long Island, NY-NJ-CT-PA-MA-VT | 23,919,008 | \$ | 358,786.00 |
| BEA011 A/B/C/D/E | Harrisburg-Lebanon-Carlisle, PA | 1,026,459 | \$ | 15,397.00 |
| BEA012 A/B/C/D/E | Philadelphia-Wilmington-Atlantic. City, PA-NJ-DE-MD | 6,915,860 | \$ | 103,738.00 |
| BEA013 A/B/C/D/E | Washington-Baltimore, DC-MD-VA-WV-PA | 7,454,633 | \$ | 111,820.00 |
| BEA014 A/B/C/D/E | Salisbury, MD-DE-VA | 290,800 | \$ | 4,362.00 |
| BEA015 A/B/C/D/E | Richmond-Petersburg, VA | 1,247,627 | \$ | 18,715.00 |
| BEA016 A/B/C/D/E | Staunton, VA-WV | 301,626 | \$ | 4,525.00 |
| BEA017 A/B/C/D/E | Roanoke, VA-NC-WV | 760,378 | \$ | 11,406.00 |
| BEA018 A/B/C/D/E | Greensboro-Winston-Salem-High Point, NC-VA | 1,604,323 | \$ | 24,065.00 |
| BEA019 A/B/C/D/E | Raleigh-Durham-Chapel Hill, NC | 1,412,330 | \$ | 21,185.00 |
| BEA020 A/B/C/D/E | Norfolk-Virginia Beach-Newport News, VA-NC | 1,588,174 | \$ | 23,823.00 |
| BEA021 A/B/C/D/E | Greenville, NC | 743,407 | \$ | 11,152.00 |
| BEA022 A/B/C/D/E | Fayetteville, NC | 465,018 | \$ | 6,976.00 |
| BEA023 A/B/C/D/E | Charlotte-Gastonia-Rock Hill, NC-SC | 1,626,519 | \$ | 24,398.00 |
| BEA024 A/B/C/D/E | Columbia, SC | 815,834 | \$ | 12,238.00 |
| BEA025 A/B/C/D/E | Wilmington, NC-SC | 716,089 | \$ | 10,742.00 |
| BEA026 A/B/C/D/E | Charleston-North Charleston, SC | 541,252 | \$ | 8,119.00 |
| BEA027 A/B/C/D/E | Augusta-Aiken, GA-SC | 536,809 | \$ | 8,053.00 |
| BEA028 A/B/C/D/E | Savannah, GA-SC | 550,623 | \$ | 8,260.00 |
| BEA029 A/B/C/D/E | Jacksonville, FL-GA | 1,557,922 | \$ | 23,369.00 |
| BEA030 A/B/C/D/E | Orlando, FL | 2,836,481 | \$ | 42,548.00 |
| BEA031 A/B/C/D/E | Miami-Fort Lauderdale, FL | 4,538,394 | \$ | 68,076.00 |
| BEA032 A/B/C/D/E | Fort Myers-Cape Coral, FL | 487,212 | \$ | 7,309.00 |
| BEA033 A/B/C/D/E | Sarasota-Bradenton, FL | 624,323 | \$ | 9,365.00 |
| BEA034 A/B/C/D/E | Tampa-St. Petersburg-Clearwater, FL | 2,067,959 | \$ | 31,020.00 |
| BEA035 A/B/C/D/E | Tallahassee, FL-GA | 610,116 | \$ | 9,152.00 |
| BEA036 A/B/C/D/E | Dothan, AL-FL-GA | 307,026 | \$ | 4,606.00 |
| BEA037 A/B/C/D/E | Albany, GA | 415,342 | \$ | 6,231.00 |
| BEA038 A/B/C/D/E | Macon, GA | 686,336 | \$ | 10,296.00 |
| BEA039 A/B/C/D/E | Columbus, GA-AL | 449,582 | \$ | 6,744.00 |
| BEA040 A/B/C/D/E | Atlanta, GA-AL-NC | 4,067,704 | \$ | 61,016.00 |
| BEA041 A/B/C/D/E | Greenville-Spartanburg-Anderson, SC-NC | 1,083,199 | \$ | 16,248.00 |
| BEA042 A/B/C/D/E | Asheville, NC | 371,635 | \$ | 5,575.00 |
| BEA043 A/B/C/D/E | Chattanooga, TN-GA | 635,535 | \$ | 9,534.00 |
| BEA044 A/B/C/D/E | Knoxville, TN | 840,395 | \$ | 12,606.00 |
| BEA045 A/B/C/D/E | Johnson City-Kingsport-Bristol, TN-VA | 524,270 | \$ | 7,865.00 |
| BEA046 A/B/C/D/E | Hickory-Morganton, NC-TN | 445,736 | \$ | 6,687.00 |
| BEA047 A/B/C/D/E | Lexington, KY-TN-VA-WV | 1,731,306 | \$ | 25,970.00 |
| BEA048 A/B/C/D/E | Charleston, WV-KY-OH | 1,196,043 | \$ | 17,941.00 |
| BEA049 A/B/C/D/E | Cincinnati-Hamilton, OH-KY-IN | 2,003,480 | \$ | 30,053.00 |
| BEA050 A/B/C/D/E | Dayton-Springfield, OH | 1,125,936 | \$ | 16,890.00 |
| BEA051 A/B/C/D/E | Columbus, OH | 2,100,613 | \$ | 31,510.00 |
| BEA052 A/B/C/D/E | Wheeling, WV-OH | 346,375 | \$ | 5,196.00 |
| BEA053 A/B/C/D/E | Pittsburgh, PA-WV | 3,003,172 | \$ | 45,048.00 |

ATTACHMENT B:
Proposed Minimum Opening Bid

| BEA054 A/B/C/D/E | Erie, PA | 512,673 | \$ | 7,691.00 |
| :---: | :---: | :---: | :---: | :---: |
| BEA055 A/B/C/D/E | Cleveland-Akron, OH-PA | 4,564,666 | \$ | 68,470.00 |
| BEA056 A/B/C/D/E | Toledo, OH | 1,278,722 | \$ | 19,181.00 |
| BEA057 A/B/C/D/E | Detroit-Ann Arbor-Flint, M1 | 6,626,919 | \$ | 99,404.00 |
| BEA058 A/B/C/D/E | Northern Michigan, MI | 230,066 | \$ | 3,451.00 |
| BEA059 A/B/C/D/E | Green Bay, WI-MI | 624,600 | \$ | 9,369.00 |
| BEA060 A/B/C/D/E | Appleton-Oshkosh-Neenah, WI | 380,610 | \$ | 5,710.00 |
| BEA061 A/B/C/D/E | Traverse City, MI | 238,720 | \$ | 3,581.00 |
| BEA062 A/B/C/D/E | Grand Rapids-Muskegon-Holland, MI | 1,666,950 | \$ | 25,005.00 |
| BEA063 A/B/C/D/E | Milwaukee-Racine, WI | 2,119,557 | \$ | 31,794.00 |
| BEA064 A/B/C/D/E | Chicago-Gary-Kenosha, IL-IN-WI | 9,317,947 | \$ | 139,770.00 |
| BEA065 A/B/C/D/E | Elkhart-Goshen, IN-MI | 864,201 | \$ | 12,964.00 |
| BEA066 A/B/C/D/E | Fort Wayne, IN | 666,421 | \$ | 9,997.00 |
| BEA067 A/B/C/D/E | Indianapolis, IN-IL | 2,753,182 | \$ | 41,298.00 |
| BEA068 A/B/C/D/E | Champaign-Urbana, IL | 623,541 | \$ | 9,354.00 |
| BEA069 A/B/C/D/E | Evansville-Henderson, IN-KY-IL | 825,644 | \$ | 12,385.00 |
| BEA070 A/B/C/D/E | Louisville, KY -IN | 1,291,188 | \$ | 19,368.00 |
| BEA071 A/B/C/D/E | Nashville, TN-KY | 2,002,283 | \$ | 30,035.00 |
| BEA072 A/B/C/D/E | Paducah, KY-IL | 211,179 | \$ | 3,168.00 |
| BEA073 A/B/C/D/E | Memphis, TN-AR-MS-KY | 1,687,817 | \$ | 25,318.00 |
| BEA074 A/B/C/D/E | Huntsville, AL-TN | 885,020 | \$ | 13,276.00 |
| BEA075 A/B/C/D/E | Tupelo, MS-AL-TN | 577,246 | \$ | 8,659.00 |
| BEA076 A/B/C/D/E | Greenville, MS | 257,239 | \$ | 3,859.00 |
| BEA077 A/B/C/D/E | Jackson, MS-AL-LA | 1,328,647 | \$ | 19,930.00 |
| BEA078 A/B/C/D/E | Birmingham, AL | 1,450,463 | \$ | 21,757.00 |
| BEA079 A/B/C/D/E | Montgomery, AL | 440,228 | \$ | 6,604.00 |
| BEA080 A/B/C/D/E | Mobile, AL | 607,965 | \$ | 9,120.00 |
| BEA081 A/B/C/D/E | Pensacola, FL | 515,942 | \$ | 7,740.00 |
| BEA082 A/B/C/D/E | Biloxi-Gulfport-Pascagoula, MS | 339,791 | \$ | 5,097.00 |
| BEA083 A/B/C/D/E | New Orleans, LA-MS | 1,635,720 | \$ | 24,536.00 |
| BEA084 A/B/C/D/E | Baton Rouge, LA-MS | 656,284 | \$ | 9,845.00 |
| BEA085 A/B/C/D/E | Lafayette, LA | 554,665 | \$ | 8,320.00 |
| BEA086 A/B/C/D/E | Lake Charles, LA | 523,289 | \$ | 7,850.00 |
| BEA087 A/B/C/D/E | Beaumont-Port Arthur, TX | 422,543 | \$ | 6,339.00 |
| BEA088 A/B/C/D/E | Shreveport-Bossier City, LA-AR | 555,385 | \$ | 8,331.00 |
| BEA089 A/B/C/D/E | Monroe, LA | 326,897 | \$ | 4,904.00 |
| BEA090 A/B/C/D/E | Little Rock-North Little Rock, AR | 1,447,083 | \$ | 21,707.00 |
| BEA091 A/B/C/D/E | Fort Smith, AR-OK | 286,113 | \$ | 4,292.00 |
| BEA092 A/B/C/D/E | Fayetteville-Springdale-Rogers, AR-MO-OK | 285,955 | \$ | 4,290.00 |
| BEA093 A/B/C/D/E | Joplin, MO-KS-OK | 233,725 | \$ | 3,506.00 |
| BEA094 A/B/C/D/E | Springfield, MO | 712,422 | \$ | 10,687.00 |
| BEA095 A/B/C/D/E | Jonesboro, AR-MO | 290,104 | \$ | 4,352.00 |
| BEA096 A/B/C/D/E | St. Louis, MO-IL | 3,402,818 | \$ | 51,043.00 |
| BEA097 A/B/C/D/E | Springfield, IL-MO | 499,681 | \$ | 7,496.00 |
| BEA098 A/B/C/D/E | Columbia, MO | 321,564 | \$ | 4,824.00 |
| BEA099 A/B/C/D/E | Kansas City, MO-KS | 2,224,907 | \$ | 33,374.00 |
| BEA100 A/B/C/D/E | Des Moines, IA-IL-MO | 1,604,609 | \$ | 24,070.00 |
| BEA101 A/B/C/D/E | Peoria-Pekin, IL | 523,719 | \$ | 7,856.00 |
| BEA102 A/B/C/D/E | Davenport-Moline-Rock Island, IA-IL | 548,257 | \$ | 8,224.00 |
| BEA103 A/B/C/D/E | Cedar Rapids, IA | 341,001 | \$ | 5,116.00 |
| BEA104 A/B/C/D/E | Madison, WI-IA-IL | 837,209 | \$ | 12,559.00 |
| BEA105 A/B/C/D/E | La Crosse, WI-MN | 220,502 | \$ | 3,308.00 |
| BEA106 A/B/C/D/E | Rochester, MN-IA-WI | 292,175 | \$ | 4,383.00 |
| BEA107 A/B/C/D/E | Minneapolis-St. Paul, MN-WI-IA | 3,945,443 | \$ | 59,182.00 |

ATTACHMENT B:
Page 3 of 4
Proposed Minimum Opening Bid

| BEA108 A/B/C/D/E | Wausau, WI | 451,533 | \$ | 6,773.00 |
| :---: | :---: | :---: | :---: | :---: |
| BEA109 A/B/C/D/E | Duluth-Superior, MN-WI | 340,675 | \$ | 5,111.00 |
| BEA110 A/B/C/D/E | Grand Forks, ND-MN | 240,827 | \$ | 3,613.00 |
| BEA111 A/B/C/D/E | Minot, ND | 116,054 | \$ | 2,500.00 |
| BEA112 A/B/C/D/E | Bismarck, ND-MT-SD | 172,204 | \$ | 2,584.00 |
| BEA113 A/B/C/D/E | Fargo-Moorhead, ND-MN | 347,670 | \$ | 5,216.00 |
| BEA114 A/B/C/D/E | Aberdeen, SD | 84,696 | \$ | 2,500.00 |
| BEA115 A/B/C/D/E | Rapid City, SD-MT-ND-NE | 199,782 | \$ | 2,997.00 |
| BEA116 A/B/C/D/E | Sioux Falls, SD-IA-MN-NE | 478,307 | \$ | 7,175.00 |
| BEA117 A/B/C/D/E | Sioux City, IA-NE-SD | 239,518 | \$ | 3,593.00 |
| BEA118 A/B/C/D/E | Omaha, NE-A-MO | 958,815 | \$ | 14,383.00 |
| BEA119 A/B/C/D/E | Lincoln, NE | 341,684 | \$ | 5,126.00 |
| BEA120 A/B/C/D/E | Grand Island, NE | 277,509 | \$ | 4,163.00 |
| BEA121 A/B/C/D/E | North Platte, NE-CO | 60,432 | \$ | 2,500.00 |
| BEA122 A/B/C/D/E | Wichita, KS-OK | 1,094,213 | \$ | 16,414.00 |
| BEA123 A/B/C/D/E | Topeka, KS | 444,800 | \$ | 6,672.00 |
| BEA124 A/B/C/D/E | Tulsa, OK-KS | 1,259,636 | \$ | 18,895.00 |
| BEA125 A/B/C/D/E | Oklahoma City, OK | 1,550,725 | \$ | 23,261.00 |
| BEA126 A/B/C/D/E | Western Oklahoma, OK | 144,847 | \$ | 2,500.00 |
| BEA127 A/B/C/D/E | Dallas-Fort Worth, TX-AR-OK | 6,180,783 | \$ | 92,712.00 |
| BEA128 A/B/C/D/E | Abilene, TX | 213,430 | \$ | 3,202.00 |
| BEA129 A/B/C/D/E | San Angelo, TX | 189,093 | \$ | 2,837.00 |
| BEA130 A/B/C/D/E | Austin-San Marcos, TX | 922,307 | \$ | 13,835.00 |
| BEA131 A/B/C/D/E | Houston-Galveston-Brazoria, TX | 4,567,679 | \$ | 68,516.00 |
| BEA132 A/B/C/D/E | Corpus Christi, TX | 500,805 | \$ | 7,513.00 |
| BEA133 A/B/C/D/E | McAllen-Edinburg-Mission, TX | 701,888 | \$ | 10,529.00 |
| BEA134 A/B/C/D/E | San Antonio, TX | 1,741,991 | \$ | 26,130.00 |
| BEA135 A/B/C/D/E | Odessa-Midland, TX | 382,517 | \$ | 5,738.00 |
| BEA136 A/B/C/D/E | Hobbs, NM-TX | 185,128 | \$ | 2,777.00 |
| BEA137 A/B/C/D/E | Lubbock, TX | 357,092 | \$ | 5,357.00 |
| BEA138 A/B/C/D/E | Amarillo, TX-NM | 448,258 | \$ | 6,724.00 |
| BEA139 A/B/C/D/E | Santa Fe, NM | 208,689 | \$ | 3,131.00 |
| BEA140 A/B/C/D/E | Pueblo, CO-NM | 247,124 | \$ | 3,707.00 |
| BEA141 A/B/C/D/E | Denver-Boulder-Greeley, CO-KS-NE | 3,031,140 | \$ | 45,468.00 |
| BEA142 A/B/C/D/E | Scottsbluff, NE-WY | 91,975 | \$ | 2,500.00 |
| BEA143 A/B/C/D/E | Casper, WY-ID-UT | 382,095 | \$ | 5,732.00 |
| BEA144 A/B/C/D/E | Billings, MT-WY | 362,513 | \$ | 5,438.00 |
| BEA145 A/B/C/D/E | Great Falls, MT | 163,284 | \$ | 2,500.00 |
| BEA146 A/B/C/D/E | Missoula, MT | 333,984 | \$ | 5,010.00 |
| BEA147 A/B/C/D/E | Spokane, WA-ID | 691,806 | \$ | 10,378.00 |
| BEA148 A/B/C/D/E | Idaho Falls, ID-WY | 263,379 | \$ | 3,951.00 |
| BEA149 A/B/C/D/E | Twin Falls, ID | 136,831 | \$ | 2,500.00 |
| BEA150 A/B/C/D/E | Boise City, ID-OR | 408,246 | \$ | 6,124.00 |
| BEA151 A/B/C/D/E | Reno, NV-CA | 511,004 | \$ | 7,666.00 |
| BEA152 A/B/C/D/E | Salt Lake City-Ogden, UT-ID | 1,635,998 | \$ | 24,540.00 |
| BEA153 A/B/C/D/E | Las Vegas, NV-AZ-UT | 943,702 | \$ | 14,156.00 |
| BEA154 A/B/C/D/E | Flagstaft, AZ-UT | 299,753 | \$ | 4,497.00 |
| BEA155 A/B/C/D/E | Farmington, NM-CO | 150,155 | \$ | 2,500.00 |
| BEA156 A/B/C/D/E | Albuquerque, $\mathrm{NM}-\mathrm{AZ}$ | 762,814 | \$ | 11,443.00 |
| BEA157 A/B/C/D/E | El Paso, TX-NM | 807,501 | \$ | 12,113.00 |
| BEA158 A/B/C/D/E | Phoenix-Mesa, AZ-NM | 2,365,002 | \$ | 35,476.00 |
| BEA159 A/B/C/D/E | Tucson, AZ | 794,180 | \$ | 11,913.00 |
| BEA160 A/B/C/D/E | Los Angeles-Riverside-Orange County, CA-AZ | 15,891,818 | \$ | 238,378.00 |
| BEA161 A/B/C/D/E | San Diego, CA | 2,498,016 | \$ | 37,471.00 |

ATTACHMENT B:
Proposed Minimum Opening Bid

| BEA162 A/B/C/D/E | Fresno, CA | 1,168,970 | \$ | 17,535.00 |
| :---: | :---: | :---: | :---: | :---: |
| BEA163 A/B/C/D/E | San Francisco-Oakland-San Jose, CA | 8,033,134 | \$ | 120,498.00 |
| BEA164 A/B/C/D/E | Sacramento-Yolo, CA | 1,935,487 | \$ | 29,033.00 |
| BEA165 A/B/C/D/E | Redding, CA-OR | 307,572 | \$ | 4,614.00 |
| BEA166 A/B/C/D/E | Eugene-Springfield, OR-CA | 689,659 | \$ | 10,345.00 |
| BEA167 A/B/C/D/E | Portland-Salem, OR-WA | 2,310,060 | \$ | 34,651.00 |
| BEA168 A/B/C/D/E | Pendleton, OR-WA | 176,129 | \$ | 2,642.00 |
| BEA169 A/B/C/D/E | Richland-Kennewick-Pasco, WA | 545,747 | \$ | 8,187.00 |
| BEA170 A/B/C/D/E | Seattle-Tacoma-Bremerton, WA | 3,445,064 | \$ | 51,676.00 |
| BEA171 A/B/C/D/E | Anchorage, AK | 550,043 | \$ | 8,251.00 |
| BEA172 A/B/C/D/E | Honolulu, HI | 1,108,229 | \$ | 16,624.00 |
| BEA173 A/B/C/D/E | Guam and Northern Mariana Islands | 176,497 | \$ | 2,648.00 |
| BEA174 A/B/C/D/E | Puerto Rico and the U.S. Virgin Islands | 3,623,846 | \$ | 54,358.00 |
| BEA175 A/B/C/D/E | American Samoa | 46,773 | \$ | 2,500.00 |
|  |  | 252,556,989 | \$ | 3,796,012.00 |


[^0]:    1 Section 3002(a), Balanced Budget Act of 1997, Pub. L. 105-33, 111 Stat. 251 (1997) ("Budget Act"); 47 U.S.C. § $309(\mathrm{j})(4)(\mathrm{F})$. The Commission's authority to establish a reserve price or minimum opening bid is set forth in 47 C.F.R. § 1.2104(c) and (d).
    ${ }^{2}$ See In the Matter of Amendment of Part 1 of the Commission's Rules -- Competitive Bidding Procedures, Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 4660-4685 MHz, WT Docket No. 97-82, ET Docket No. 94-32, FCC 97-413, Third Report and Order and Second Further Notice of Proposed Rule Making (rel. December 31, 1997) at II 141 ("Part 1 Third Report and Order and Second FNPRM").

[^1]:    3 Id.
    4 See Public Notice, "FCC Announces Spectrum Auction Schedule for the General Wireless Communications Service," DA 97-2634 (rel. December 17, 1997) ("GWCS Schedule Notice") and Public Notice, "Auction Schedule for the General Wireless Communications Service--Correction," DA 97-2662 (rel. December 19, 1997).

[^2]:    7 In order to assist them in their evaluation, interested parties are advised to review Attachment A to this Public Notice. This Attachment contains information provided to the Commission by the National Telecommunications and Information Administration. It describes certain government operations that operate in the bands adjacent to GWCS spectrum and may cause interference in some regions.

