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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

December 23, 1993

William F. Caton, Acting Secretary
Federal Communications Commission
1919 M Street, N.W. - Room 222
Washington, D.C. 20554

Re: PP Docket No. 93-253, Competitive Bidding

Dear Mr. Caton:

On December 6, 1993, I filed an ex parte statement describing a meeting that took place that day between E.Y. Snowden and Jim Tuthill from Pacific Bell and Paul Milgrom of Cornerstone Research, on the one hand, and several members of the Commission's staff, on the other hand. Professor Milgrom's hand-out included hard copies of some material from PCS Spectrum Auction Software developed for Pacific Bell by Cornerstone Research.

Members of the Commission's staff have asked Pacific Bell to make available diskettes of the software program for their use. Accordingly, Pacific Bell is today providing the instruction manual and two diskettes, one for Apple Macintosh and another for IBM PC, to the staff of the Office of Plans and Policy. Pacific is also providing copies to the Commission's duplicating contractor should any other party to the proceeding want to use the software. All parties should note that Pacific Bell has a copyright to the software, and it may not be sold or used for any other commercial purpose without the written consent of Pacific Bell.

I am filing two copies of this letter and its attachment in accordance with Section 1.1206(a)(1) of the Commission's rules. Please contact me if you have any questions concerning this matter.

Sincerely,



Attachment

CC: Evan Kwerel

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List ABCDE

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FCC DOCKET COPY
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DISKETTES NOT INCLUDED
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CONTACT ITS FOR
DISKETTES

PCS SPECTRUM AUCTION SOFTWARE

I N S T R U C T I O N S

Version 1.0

December 1993

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Prepared for Pacific Bell by

CORNERSTONE RESEARCH

1000 El Camino Real • Menlo Park, California 94025 • (415) 853-1660

PCS SPECTRUM AUCTION SOFTWARE, VERSION 1.0

INSTRUCTIONS

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- Diagram of a single round of bidding
- Organization of the auction software
- Printouts of most important files with attached explanation
- Printouts of all files included on the Macintosh version disk

1. Purpose

The enclosed software has been prepared to illustrate the salient features of the Milgrom-Wilson spectrum auction design in a simplified framework where 5 bidders compete for 24 licenses. Five prepared bids are included along with the bid processing software to allow the user to simulate a single round of bidding and generate the official report for that round.

Additionally, the user is provided with blank bidding sheets that can be used in lieu of prepared bids. The user may enter bids in these sheets as he pleases for the purpose of testing the self-checking feature of the bidding sheets and the performance of the bid processing software.

Please note that the enclosed software is a version 1.0 prototype and as such does not offer the user the sophisticated interface capable of handling every contingency.

2. User interface

While the developer has made every effort to design a user-friendly environment, thorough checking of the software's performance requires the user to have some knowledge of the Microsoft Excel 4.0 spreadsheet software.

Users unfamiliar with this spreadsheet software can nevertheless examine the performance of the bid processing software by following instructions given in paragraph 4.

3. Required commercial software and equipment

The auction software comes in two versions, one for the Apple Macintosh computers, and the other for the IBM PC compatible computers. Both versions require the Microsoft Excel 4.0 spreadsheet software and a printer. In addition, the IBM PC version requires the Microsoft Windows 3.1 operating system.

4. Illustration of one round of bidding

To witness a simulation of one round of bidding using the spreadsheet auction software, insert the disk with the software version appropriate for your computer into your computer's disk drive and display the directory of files. Next, activate the FCC Main Sheet file by double-clicking on its icon and clicking Read Only when prompted to enter password for write access.

Wait a few seconds until the "SELECTION FUNCTION" message appears in the upper right portion of the screen.

For the purpose of this illustration, five prepared bids have been stored in the Bids folder. To check the first submitted bid, click the Check Submission button and click open the Bids folder when the Open dialog box appears. Double-click on the first file, American Comm., and wait until the "SUBMISSION CHECK COMPLETED." message appears in the upper right portion of the screen.

This submission should be rule-conforming if the software performs as intended. Next, click the Merge Submission button to merge this submission into the FCC Main Sheet.

Repeat the steps described above to check and merge the rule-conforming submissions of the other bidders. The Microwave Tech. submission will be found to violate auction rules if the software performs as intended. You may click the Merge Submission button anyway, but do click Cancel to abort merging this bid when alerted to the violation of rules.

After checking all five bids and merging all but one, click the Generate Report button to generate the Official Report. When prompted to print, click the Print button to obtain a hard copy of the report.

The report can also be viewed on the screen by activating the Report Form window after the program returns control to the user. (To return to the FCC Main Sheet window from the Report Form window, select FCC Main Sheet under the Window menu.)

After the generating the report the program will prompt you to update the Main Sheet. Click O.K. if you wish to update the Main Sheet for the next round of bidding. You will not be able to save this updated worksheet though.

To produce a record of different stages of processing, you may at any stage obtain a printout of the FCC Main Sheet by selecting the Print function from the File menu.

5. Contents of the enclosed disks

The enclosed Macintosh disk contains the following files:

1. FCC Main Sheet
2. Macros
3. Check Template

4. Report Form
5. Eligibility Sheet,

five prepared bids in the Bids folder,

- B1. American Comm.
- B2. Ashley Telephone
- B3. Microwave Tech.
- B4. Telecom Ventures
- B5. Vienna Telephone,

and five blank bidding sheets in the Blank Bidding Sheets folder

- BB1. American Comm. II
- BB2. Ashley Telephone II
- BB3. Microwave Tech. II
- BB4. Telecom Ventures II
- BB5. Vienna Telephone. II.

Additionally, copies of all the above listed files are provided in the folder named Backup of All Files.

The files included on the IBM PC disk are identical, except for the filenames which conform to the DOS format.

6. Access to files

Files 1-5 and B1-B5, used for the illustration of one round of auction, are read-only files and hence cannot be changed by the user. On the other hand, the blank bidding sheets BB1-BB5 are enclosed for user's convenience, and allow the user to enter bids and save them. To make BB1-BB5 compatible with the eligibility information stored in the Eligibility Sheet (5), these bidding sheets have been assigned bidder names and their respective eligibility information. However, entering new bids and requesting waiver use is left to the user. All cells in BB1-BB5 that are not needed by the user are write-protected and cannot be changed.

Warning

Cutting out, erasing or moving cells accessible to the user in BB1-BB5 may result in software failure. Should this happen, close the file without saving it, or, if the file has already been saved, restore its proper version from the folder named Backup of All Files.

All deletions of bids in BB1-BB5 should be made by erasing the contents of relevant cells without destroying the references to the cells.

7. Auction software functions

To activate auction software, double-click on the FCC Main Sheet icon and click the Read Only button. Once this file is loaded into memory, its attached macros (2) will open files 3-5, and the processing software will be ready for use.

Following activation, the message **"SELECT FUNCTION"** will appear in the upper right section of the screen. The user can select one of the three available functions, **Check Submission**, **Merge Submission**, and **Generate Report**, by clicking the appropriate button in the left section of the screen.

- 7.1 Clicking the **Check Submission** button will bring up the Open Document dialog box. Select the Bids folder and open any one of the files. The screen will turn white and remain frozen for several seconds while the macro is checking whether the bid contained in the chosen file is rule-conforming. The bid check report will appear in the right section of the screen when the check is completed.
- 7.2 Checked submissions may be merged into the Main Sheet by clicking the **Merge Submission** button. While the software allows the user to merge a bid even if the bid is not rule-conforming, properly only rule-conforming bids should be merged. The macro will alert the user if the bid is found to violate auction rules.
- 7.3 The user can produce the Official Report by clicking the **Generate Report** button. When prompted to print the report the user may choose to do so by clicking the Print button or abort printing by clicking the Cancel button.
- 7.4 After the report has been generated, the user is prompted to update the FCC Main Sheet for the next round of bidding. Click O.K. if you wish to update. Updating advances the round counter, updates all cells containing last round information with current round information and erases from the Main Sheet all bids entered in the current round.

However, the updated Main Sheet cannot be saved. Once updated and saved, the worksheet could no longer use the prepared bids in the Bids folder.

8. Blank Bidding Sheets

The five blank bidding sheets in the Blank Bidding Sheets folder allow user to test the self-checking feature of the bidding sheets and to process user prepared bids. The user may enter bids into the designated fields, save these changes and use thus prepared bidding sheets in lieu of prepared bids.

9. Limitations

The enclosed auction software does not address the following elements of the Milgrom-Wilson design:

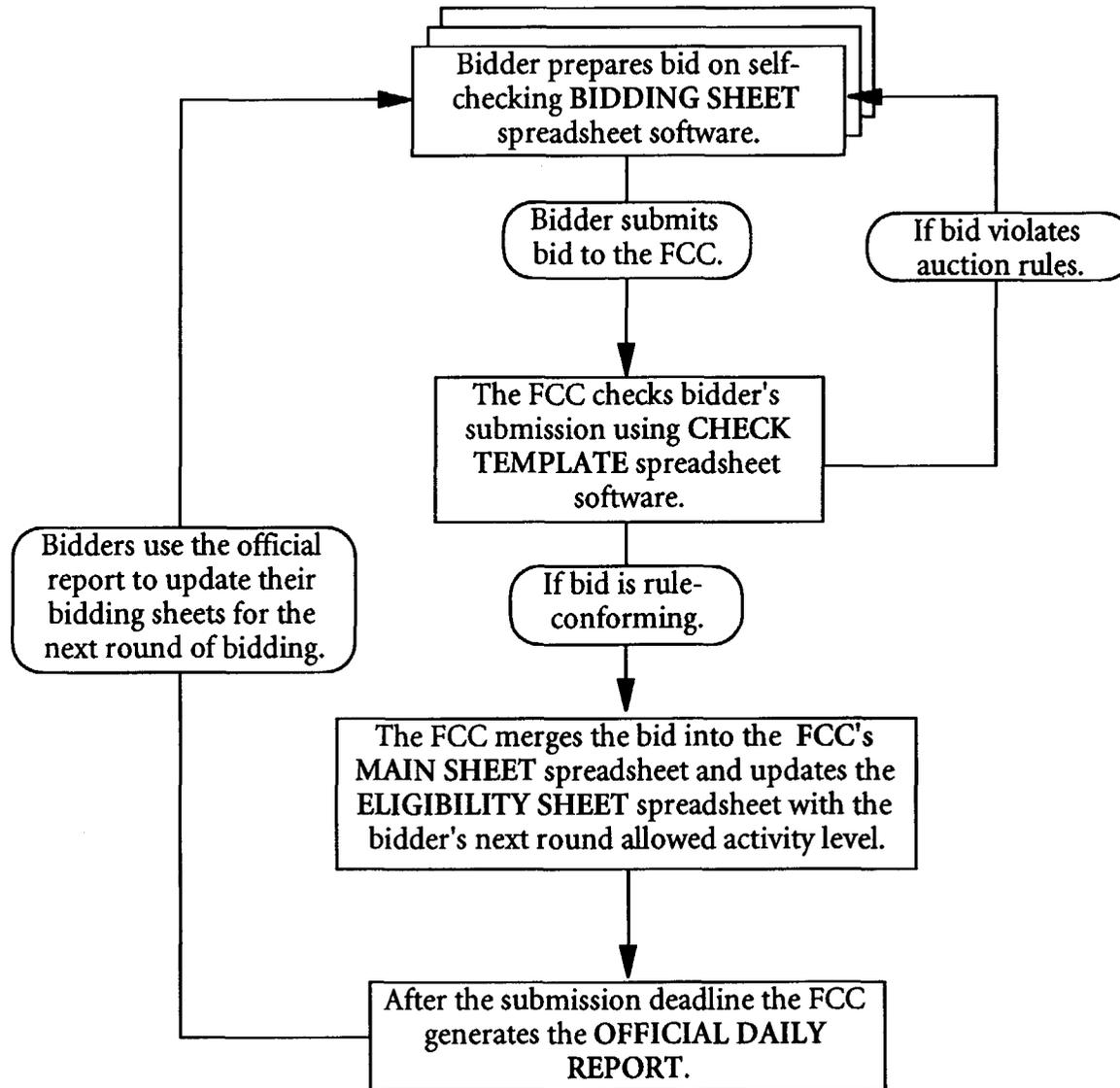
- closing of the auction
- generating the Tentative Status Report
- breaking ties if two or more bidders submit bids for the same license in the same amount
- granting bidders Free Waivers in extraordinary circumstances
- using the alternative bid increment rule.

10. Additional information and assistance

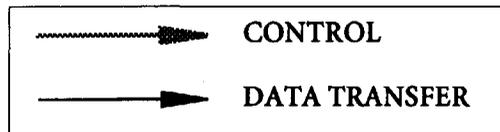
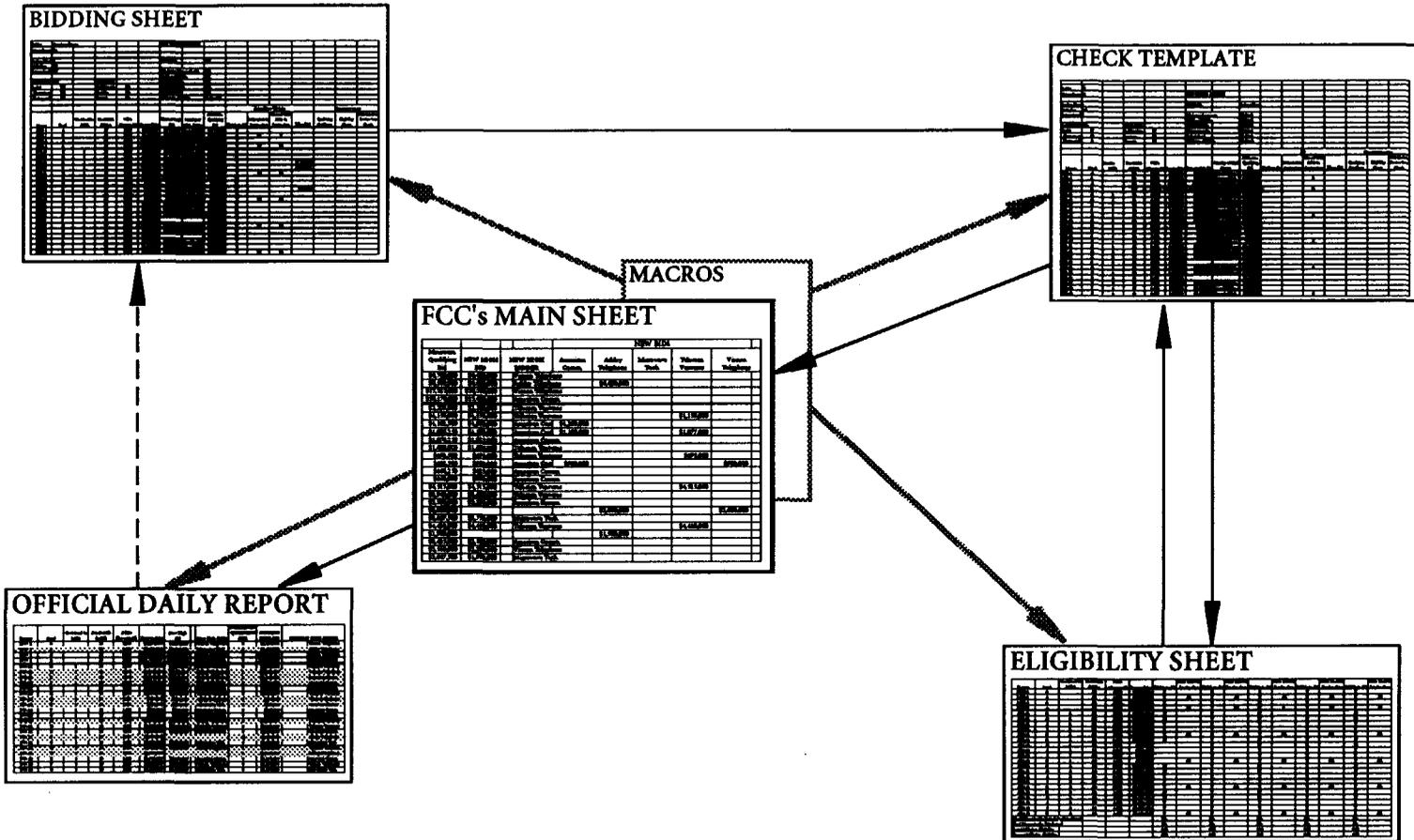
For additional information please contact Cornerstone Research at (415) 853-1660, (415) 324-9204 (fax), and direct your inquiry to Zoran Chernya.

APPENDIXES

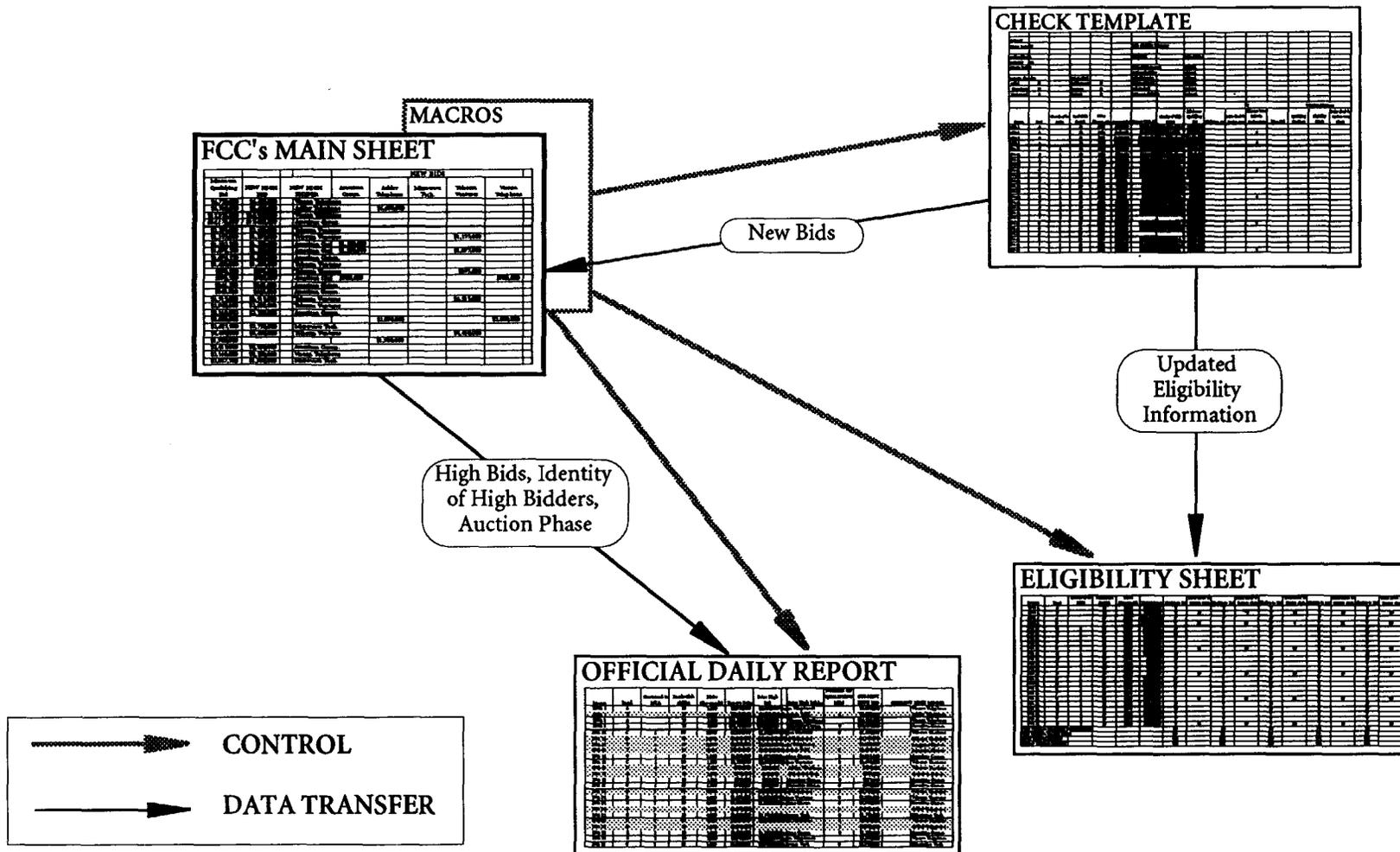
OVERVIEW OF A SINGLE ROUND OF BIDDING USING SPREADSHEET SOFTWARE



PCS SPECTRUM AUCTION SOFTWARE



INTEGRATING NEW BIDS AND GENERATING OFFICIAL REPORT



THE OFFICIAL REPORT

AUCTION PHASE REPORTED HERE APPLIES TO THE NEXT ROUND OF BIDDING.

BIDDING ROUND IS REPORTED ALONG WITH AUCTION PHASE.

HIGH BIDS AND THE IDENTITY OF HIGH BIDDER PRIOR TO THE LAST ROUND OF BIDDING.

THE OFFICIAL STATUS REPORT SPECIFIES FOR EACH LICENSE THE NUMBER OF QUALIFYING BIDS RECEIVED IN THE LAST ROUND, THE AMOUNT OF THE CURRENT HIGH BID AND THE IDENTITY OF THE CURRENT HIGH BIDDER.

PCS Spectrum Auction Status Report for Dec 13, 1993

Bidding round: 6
Auction phase: 1

FIRST SIX COLUMNS CONTAIN THE ESSENTIAL INFORMATION ABOUT THE LICENSES.

License	Band	Contained in MTA	Bandwidth (MHz)	POPs (thousands)	Reserve Price	Prior High Bid	Prior High Bidder	NUMBER OF QUALIFYING BIDS	CURRENT HIGH BID	CURRENT HIGH BIDDER
MTA 1	A		30	3,500	\$5,250,000	\$6,400,000	United Telephone	0	\$6,400,000	United Telephone
MTA 1	B		30	3,500	\$5,250,000	\$6,200,000	Microwave Tech.	1	\$6,600,000	Ashley Telephone
MTA 2	A		30	7,800	\$11,700,000	\$16,500,000	United Telephone	0	\$16,500,000	United Telephone
MTA 2	B		30	7,800	\$11,700,000	\$15,400,000	Alaska Telephone	0	\$15,400,000	Alaska Telephone
BTA 11	C	1	20	2,000	\$2,000,000	\$2,100,000	Telecom Ventures	0	\$2,100,000	Telecom Ventures
BTA 11	D	1	10	2,000	\$1,000,000	\$1,100,000	Ashley Telephone	1	\$1,155,000	Telecom Ventures
BTA 11	E	1	10	2,000	\$1,000,000	\$1,050,000	United Telephone	1	\$1,200,000	Alaska Telephone
BTA 11	F	1	10	2,000	\$1,000,000	\$1,025,000	Microwave Tech.	2	\$1,100,000	Alaska Telephone
BTA 11	G	1	10	2,000	\$1,000,000	\$1,025,000	Alaska Telephone	0	\$1,025,000	Alaska Telephone
BTA 12	C	1	20	1,500	\$1,500,000	\$1,600,000	Telecom Ventures	0	\$1,600,000	Telecom Ventures
BTA 12	D	1	10	1,500	\$750,000	\$825,000	Ashley Telephone	1	\$895,000	Telecom Ventures
BTA 12	E	1	10	1,500	\$750,000	\$850,000	Microwave Tech.	2	\$900,000	Alaska Telephone
BTA 12	F	1	10	1,500	\$750,000	\$825,000	Alaska Telephone	0	\$825,000	Alaska Telephone
BTA 12	G	1	10	1,500	\$750,000	\$800,000	Alaska Telephone	0	\$800,000	Alaska Telephone
BTA 21	C	2	20	4,000	\$4,000,000	\$4,300,000	Ashley Telephone	1	\$4,315,000	Telecom Ventures
BTA 21	D	2	10	4,000	\$2,000,000	\$2,800,000	Telecom Ventures	0	\$2,800,000	Telecom Ventures
BTA 21	E	2	10	4,000	\$2,000,000	\$2,200,000	Alaska Telephone	0	\$2,200,000	Alaska Telephone
BTA 21	F	2	10	4,000	\$2,000,000	\$2,050,000		2	\$2,050,000	Ashley Telephone
BTA 21	G	2	10	4,000	\$2,000,000	\$2,750,000	Microwave Tech.	0	\$2,750,000	Microwave Tech.
BTA 22	C	2	20	3,800	\$3,800,000	\$4,490,000	Ashley Telephone	1	\$4,410,000	Telecom Ventures
BTA 22	D	2	10	3,800	\$1,900,000	\$2,300,000		1	\$1,900,000	Ashley Telephone
BTA 22	E	2	10	3,800	\$1,900,000	\$2,300,000	Alaska Telephone	0	\$2,300,000	Alaska Telephone
BTA 22	F	2	10	3,800	\$1,900,000	\$2,200,000	United Telephone	0	\$2,200,000	United Telephone
BTA 22	G	2	10	3,800	\$1,900,000	\$1,950,000	Microwave Tech.	0	\$1,950,000	Microwave Tech.

LICENSES WHOSE HIGH BIDS INCREASED IN THE LAST ROUND ARE SHADED.

AMERICAN COMM. BIDDING SHEET

ACTIVITY RULE WAIVER REQUEST IS ENTERED HERE.

SOFTWARE USES BIDDER'S NAME TO IDENTIFY THE BID.

ALLOWED ACTIVITY IN THE NEXT ROUND IS CALCULATED AUTOMATICALLY.

BIDDING SHEET IS SELF CHECKING. BID CHECK REPORT SUMMARIZES AND ITEMIZES THE CHECKS PERFORMED.

PCS Spectrum Auction Bidding Sheet

Bidder: American Comm.
Waiver Request: No

Auction Phase: 1
Multiplier: 3.0
Activity Level: 417

Pop/MHz Eligibility		Waiver Used	
Initial	452	2nd Previous	No
Current round	452	Previous	No
Next round	452	Current	No

BID CHECK REPORT

OVERALL O.K.

Minimum increment rule: O.K.

Bidding eligibility: O.K.

MHz limit rule: O.K.

Waiver use rule: O.K.

Activity level: O.K.

MHz-pop eligibility: Unchanged.

MINIMUM QUALIFYING BIDS ARE CALCULATED USING CURRENT HIGH BIDS AND THE MINIMUM INCREMENT RULE.

WARNING MESSAGES ARE PRINTED NEXT TO THOSE NEW BIDS THAT VIOLATE RULES.

License	Band	Contained in MTA	Bandwidth (MHz)	POPs (thousands)	Reserve Price	Current High Bid	Identity of High Bidder	Minimum Qualifying Bid	Eligible to Bid	MHz Limit in Service Area	American Comm.		Warning Messages			
											Current Total MHz in Service	New Bid	Qualifying Bid Check	Eligibility Check	MHz Limit in Service Area Check	
MTA 1	A		30	3,500	\$5,250,000	\$6,400,000	Vienna Telephone	\$6,720,000	Y							
MTA 1	B		30	3,500	\$5,250,000	\$6,200,000	Microwave Tech.	\$6,510,000	Y	30	0					
MTA 2	A		30	7,800	\$11,700,000	\$16,500,000	Vienna Telephone	\$17,325,000	Y							
MTA 2	B		30	7,800	\$11,700,000	\$15,400,000	American Comm.	\$16,170,000	Y	30	30					
BTA 11	C	1	20	2,000	\$2,000,000	\$2,100,000	Telecom Ventures	\$2,205,000	N							
BTA 11	D	1	10	2,000	\$1,000,000	\$1,100,000	Ashley Telephone	\$1,155,000	N							
BTA 11	E	1	10	2,000	\$1,000,000	\$1,050,000	Vienna Telephone	\$1,102,500	Y			\$1,200,000				
BTA 11	F	1	10	2,000	\$1,000,000	\$1,025,000	Microwave Tech.	\$1,076,250	Y			\$1,100,000				
BTA 11	G	1	10	2,000	\$1,000,000	\$1,025,000	American Comm.	\$1,076,250	Y	40	30					
BTA 12	C	1	20	1,500	\$1,500,000	\$1,600,000	Telecom Ventures	\$1,680,000	N							
BTA 12	D	1	10	1,500	\$750,000	\$850,000	Ashley Telephone	\$892,500	N							
BTA 12	E	1	10	1,500	\$750,000	\$850,000	Microwave Tech.	\$892,500	Y			\$900,000				
BTA 12	F	1	10	1,500	\$750,000	\$825,000	American Comm.	\$866,250	Y							
BTA 12	G	1	10	1,500	\$750,000	\$800,000	American Comm.	\$840,000	Y	40	30					
BTA 21	C	2	20	4,000	\$4,000,000	\$4,300,000	Ashley Telephone	\$4,515,000	N							
BTA 21	D	2	10	4,000	\$2,000,000	\$2,800,000	Telecom Ventures	\$2,940,000	N							
BTA 21	E	2	10	4,000	\$2,000,000	\$2,200,000	American Comm.	\$2,310,000	Y							
BTA 21	F	2	10	4,000	\$2,000,000	\$2,000,000		\$2,000,000	Y							
BTA 21	G	2	10	4,000	\$2,000,000	\$2,750,000	Microwave Tech.	\$2,887,500	Y	40	40					
BTA 22	C	2	20	3,800	\$3,800,000	\$4,200,000	Ashley Telephone	\$4,410,000	N							
BTA 22	D	2	10	3,800	\$1,900,000	\$1,900,000		\$1,900,000	N							
BTA 22	E	2	10	3,800	\$1,900,000	\$2,300,000	American Comm.	\$2,415,000	Y							
BTA 22	F	2	10	3,800	\$1,900,000	\$2,200,000	Vienna Telephone	\$2,310,000	Y							
BTA 22	G	2	10	3,800	\$1,900,000	\$1,950,000	Microwave Tech.	\$2,047,500	Y	40	40					

ALASKA TELEPHONE'S NEW BIDS CONFORM TO THE RULES OF AUCTION.

BANDWIDTH CURRENTLY HELD IN EACH SERVICE AREA IS CALCULATED AUTOMATICALLY.

FCC'S DAILY REPORT IS USED TO UPDATE INFORMATION ON CURRENT HIGH BIDS.

CHECK TEMPLATE

BIDDER'S NAME AND WAIVER REQUEST ARE IMPORTED FROM THE BIDDING SHEET THAT THE BIDDER SUBMITTED.

MHZPOP ELIGIBILITY AND PAST WAIVER USE INFORMATION IS IMPORTED FROM THE ELIGIBILITY SHEET.

CHECK TEMPLATE PERFORMS ALL OF THE CHECKS BUILT INTO THE BIDDING SHEET. UPON COMPLETION, THE CHECK REPORT IS EXPORTED TO THE MAIN SHEET.

NEW BIDS ARE IMPORTED FROM THE BIDDING SHEET.

PCS Spectrum Auction Check Template

Bidder: ???
Waiver Request: ???

Auction Phase: 1
Multiplier: 3.0
Activity Level: 0

PopMHz Eligibility

Initial: ???
Current round: ???
Next round: 0

Waiver Used

2nd Previous: ???
Previous: ???
Current: ???

BID CHECK REPORT

OVERALL

Minimum increment:
Bidding eligibility:
MHz limit rule:
Waiver use rule:
Activity level:
MHz-pop eligibility

Rules violated.

Violated.
Violated.
Violated.
Violated.
Reduced.

BIDDER'S ELIGIBILITY INFORMATION IS IMPORTED FROM THE ELIGIBILITY SHEET

License	Band	Contained in MTA	Bandwidth (MHz)	POPs (thousands)	Reserve Price	Current High Bid	Identity of High Bidder	Minimum Qualifying Bid	Warning Messages			
									Eligible to Bid	Current MHz Limit in Service Area	Total MHz in Service Area	New Bid
MTA 1	A		30	3,500	5,250,000	\$6,400,000	Vienna Telephone	\$6,720,000				
MTA 1	B		30	3,500	5,250,000	\$6,200,000	Microwave Tech.	\$6,510,000		0		
MTA 2	A		30	7,800	11,700,000	\$16,500,000	Vienna Telephone	\$17,325,000				
MTA 2	B		30	7,800	11,700,000	\$15,400,000	American Comm.	\$16,170,000		0		
BTA 11	C	1	20	2,000	2,000,000	\$2,100,000	Telecom Ventures	\$2,205,000				
BTA 11	D	1	10	2,000	1,000,000	\$1,100,000	Ashley Telephone	\$1,155,000				
BTA 11	E	1	10	2,000	1,000,000	\$1,050,000	Vienna Telephone	\$1,102,500				
BTA 11	F	1	10	2,000	1,000,000	\$1,025,000	Microwave Tech.	\$1,076,250				
BTA 11	G	1	10	2,000	1,000,000	\$1,025,000	American Comm.	\$1,076,250				
BTA 12	C	1	20	1,500	1,500,000	\$1,600,000	Telecom Ventures	\$1,680,000				
BTA 12	D	1	10	1,500	750,000	\$850,000	Ashley Telephone	\$892,500				
BTA 12	E	1	10	1,500	750,000	\$850,000	Microwave Tech.	\$892,500				
BTA 12	F	1	10	1,500	750,000	\$825,000	American Comm.	\$866,250				
BTA 12	G	1	10	1,500	750,000	\$800,000	American Comm.	\$840,000				
BTA 21	C	2	20	4,000	4,000,000	\$4,300,000	Ashley Telephone	\$4,515,000				
BTA 21	D	2	10	4,000	2,000,000	\$2,800,000	Telecom Ventures	\$2,940,000				
BTA 21	E	2	10	4,000	2,000,000	\$2,200,000	American Comm.	\$2,310,000				
BTA 21	F	2	10	4,000	2,000,000			\$2,000,000				
BTA 21	G	2	10	4,000	2,000,000	\$2,750,000	Microwave Tech.	\$2,887,500		0		
BTA 22	C	2	20	3,800	3,800,000	\$4,200,000	Ashley Telephone	\$4,410,000				
BTA 22	D	2	10	3,800	1,900,000			\$1,900,000				
BTA 22	E	2	10	3,800	1,900,000	\$2,300,000	American Comm.	\$2,415,000				
BTA 22	F	2	10	3,800	1,900,000	\$2,200,000	Vienna Telephone	\$2,310,000				
BTA 22	G	2	10	3,800	1,900,000	\$1,950,000	Microwave Tech.	\$2,047,500		0		

CHECK TEMPLATE AND BIDDING SHEET ARE VIRTUALLY IDENTICAL, EXCEPT THAT CHECKING TEMPLATE INITIALLY CONTAINS NO BIDDER SPECIFIC INFORMATION.

ELIGIBILITY SHEET

FOR EACH BIDDER THIS WORKSHEET STORES BIDDER'S ELIGIBILITY TO BID FOR A EACH LICENSE AND THE BANDWIDTH LIMIT FOR EACH SERVICE AREA.

PCS Spectrum Auction Eligibility Sheet

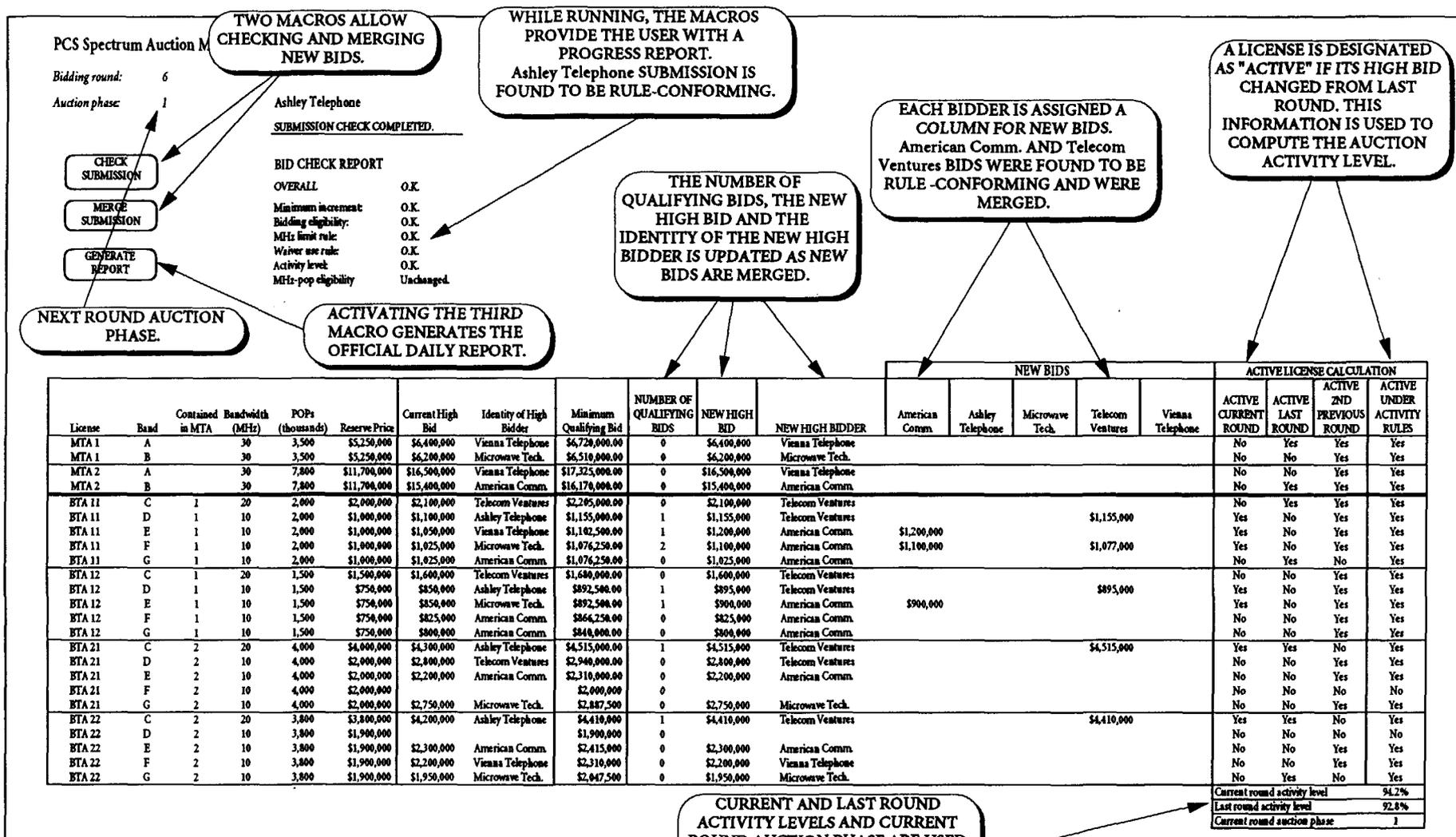
Date: Dec 6, 1993

Bidding round: 6

Auction phase: 1

License	Band	Contained in MTA	Bandwidth (MHz)	POPs (thousands)	Reserve Price	American Comm.	Ashley Telephone	Microwave Tech.	Telecom Ventures	Vienna Telephone			
						Eligible to Bid	MHz Limit in Service Area	Eligible to Bid	MHz Limit in Service Area	Eligible to Bid	MHz Limit in Service Area	Eligible to Bid	MHz Limit in Service Area
MTA 1	A		30	3,500	\$5,250,000	Y		Y	Y	Y			
MTA 1	B		30	3,500	\$5,250,000	Y	30	Y	30	Y	30		
MTA 2	A		30	7,800	\$11,700,000	Y		Y	N	Y	Y		
MTA 2	B		30	7,800	\$11,700,000	Y	30	Y	30	N	0	Y	30
BTA 11	C	1	20	2,000	\$2,000,000	N		Y	N	Y	N		
BTA 11	D	1	10	2,000	\$1,000,000	N		Y	N	Y	N		
BTA 11	E	1	10	2,000	\$1,000,000	Y		Y	Y	Y	Y		
BTA 11	F	1	10	2,000	\$1,000,000	Y		Y	Y	Y	Y		
BTA 11	G	1	10	2,000	\$1,000,000	Y	40	Y	40	Y	40	Y	40
BTA 12	C	1	20	1,500	\$1,500,000	N		Y	N	Y	N		
BTA 12	D	1	10	1,500	\$750,000	N		Y	N	Y	N		
BTA 12	E	1	10	1,500	\$750,000	Y		Y	Y	Y	Y		
BTA 12	F	1	10	1,500	\$750,000	Y		Y	Y	Y	Y		
BTA 12	G	1	10	1,500	\$750,000	Y	40	Y	40	Y	40	Y	40
BTA 21	C	2	20	4,000	\$4,000,000	N		Y	N	Y	N		
BTA 21	D	2	10	4,000	\$2,000,000	N		Y	N	Y	N		
BTA 21	E	2	10	4,000	\$2,000,000	Y		Y	Y	Y	Y		
BTA 21	F	2	10	4,000	\$2,000,000	Y		Y	Y	Y	Y		
BTA 21	G	2	10	4,000	\$2,000,000	Y	40	Y	40	Y	10	Y	40
BTA 22	C	2	20	3,800	\$3,800,000	N		Y	N	Y	N		
BTA 22	D	2	10	3,800	\$1,900,000	N		Y	N	Y	N		
BTA 22	E	2	10	3,800	\$1,900,000	Y		Y	Y	Y	Y		
BTA 22	F	2	10	3,800	\$1,900,000	Y		Y	Y	Y	Y		
BTA 22	G	2	10	3,800	\$1,900,000	Y	40	Y	40	Y	10	Y	40
Used Waiver in the Second Previous Round						No		No	No	No	No		
Used Waiver in the Last Round						No		No	No	No	No		
Initial MHzPop Eligibility						452		452	218	452	452		
Current MHzPop Eligibility						452		452	218	452	452		

FCC's MAIN SHEET



AUCTION SOFTWARE VERSION 1.0

List of files:

- Official Report
- Eligibility Sheet
- Check Template
- FCC Main Sheet
- Macros:
 - Automatic Opening and Closing
 - Bid Checking
 - Bid Merging
 - Generating Report
- Prepared Bids:
 - American Comm.
 - Ashley Telephone
 - Microwave Tech.
 - Telecom Ventures
 - Vienna Telephone
- Blank Bidding Sheets:
 - American Comm. II
 - Ashley Telephone II
 - Microwave Tech. II
 - Telecom Ventures II
 - Vienna Telephone II

PCS Spectrum Auction Official Report for Dec 21, 1993

Version 1.0

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Bidding round: 6

Auction phase: 1

License	Band	Contained in MTA	Bandwidth (MHz)	POPs (thousands)	Reserve Price	Prior High Bid	Prior High Bidder	NUMBER OF QUALIFYING BIDS	CURRENT HIGH BID	CURRENT HIGH BIDDER
MTA 1	A		30	3,500	\$5,250,000	\$6,400,000	Vienna Telephone	0	\$6,400,000	Vienna Telephone
MTA 1	B		30	3,500	\$5,250,000	\$6,200,000	Microwave Tech.	0	\$6,200,000	Microwave Tech.
MTA 2	A		30	7,800	\$11,700,000	\$16,500,000	Vienna Telephone	0	\$16,500,000	Vienna Telephone
MTA 2	B		30	7,800	\$11,700,000	\$15,400,000	American Comm.	0	\$15,400,000	American Comm.
BTA 11	C	1	20	2,000	\$2,000,000	\$2,100,000	Telecom Ventures	0	\$2,100,000	Telecom Ventures
BTA 11	D	1	10	2,000	\$1,000,000	\$1,100,000	Ashley Telephone	1	\$1,155,000	Telecom Ventures
BTA 11	E	1	10	2,000	\$1,000,000	\$1,050,000	Vienna Telephone	1	\$1,200,000	American Comm.
BTA 11	F	1	10	2,000	\$1,000,000	\$1,025,000	Microwave Tech.	2	\$1,100,000	American Comm.
BTA 11	G	1	10	2,000	\$1,000,000	\$1,025,000	American Comm.	0	\$1,025,000	American Comm.
BTA 12	C	1	20	1,500	\$1,500,000	\$1,600,000	Telecom Ventures	0	\$1,600,000	Telecom Ventures
BTA 12	D	1	10	1,500	\$750,000	\$850,000	Ashley Telephone	1	\$895,000	Telecom Ventures
BTA 12	E	1	10	1,500	\$750,000	\$850,000	Microwave Tech.	1	\$900,000	American Comm.
BTA 12	F	1	10	1,500	\$750,000	\$825,000	American Comm.	0	\$825,000	American Comm.
BTA 12	G	1	10	1,500	\$750,000	\$800,000	American Comm.	0	\$800,000	American Comm.
BTA 21	C	2	20	4,000	\$4,000,000	\$4,300,000	Ashley Telephone	1	\$4,515,000	Telecom Ventures
BTA 21	D	2	10	4,000	\$2,000,000	\$2,800,000	Telecom Ventures	0	\$2,800,000	Telecom Ventures
BTA 21	E	2	10	4,000	\$2,000,000	\$2,200,000	American Comm.	0	\$2,200,000	American Comm.
BTA 21	F	2	10	4,000	\$2,000,000			0		
BTA 21	G	2	10	4,000	\$2,000,000	\$2,750,000	Microwave Tech.	0	\$2,750,000	Microwave Tech.
BTA 22	C	2	20	3,800	\$3,800,000	\$4,200,000	Ashley Telephone	1	\$4,410,000	Telecom Ventures
BTA 22	D	2	10	3,800	\$1,900,000			0		
BTA 22	E	2	10	3,800	\$1,900,000	\$2,300,000	American Comm.	0	\$2,300,000	American Comm.
BTA 22	F	2	10	3,800	\$1,900,000	\$2,200,000	Vienna Telephone	0	\$2,200,000	Vienna Telephone
BTA 22	G	2	10	3,800	\$1,900,000	\$1,950,000	Microwave Tech.	0	\$1,950,000	Microwave Tech.

PCS Spectrum Auction Eligibility Sheet

Version 1.0 © 1993 Pacific Bell

Date: Dec 21, 1993

Bidding round: 6

Auction phase: 1

License	Band	Contained in MTA	Bandwidth (MHz)	POPs (thousands)	Reserve Price	American Comm.	Ashley Telephone	Microwave Tech.	Telecom Ventures	Vienna Telephone					
						Eligible to Bid	MHz Limit in Service Area								
MTA 1	A		30	3,500	\$5,250,000	Y		Y	Y	Y					
MTA 1	B		30	3,500	\$5,250,000	Y	30	Y	30	Y	30				
MTA 2	A		30	7,800	\$11,700,000	Y		Y	Y	Y					
MTA 2	B		30	7,800	\$11,700,000	Y	30	Y	0	Y	30	Y	30		
BTA 11	C	1	20	2,000	\$2,000,000	N		Y	N	Y	N				
BTA 11	D	1	10	2,000	\$1,000,000	N		Y	N	Y	N				
BTA 11	E	1	10	2,000	\$1,000,000	Y		Y	Y	Y	Y				
BTA 11	F	1	10	2,000	\$1,000,000	Y		Y	Y	Y	Y				
BTA 11	G	1	10	2,000	\$1,000,000	Y	40	Y	40	Y	40	Y	40		
BTA 12	C	1	20	1,500	\$1,500,000	N		Y	N	Y	N				
BTA 12	D	1	10	1,500	\$750,000	N		Y	N	Y	N				
BTA 12	E	1	10	1,500	\$750,000	Y		Y	Y	Y	Y				
BTA 12	F	1	10	1,500	\$750,000	Y		Y	Y	Y	Y				
BTA 12	G	1	10	1,500	\$750,000	Y	40	Y	40	Y	40	Y	40		
BTA 21	C	2	20	4,000	\$4,000,000	N		Y	N	Y	N				
BTA 21	D	2	10	4,000	\$2,000,000	N		Y	N	Y	N				
BTA 21	E	2	10	4,000	\$2,000,000	Y		Y	Y	Y	Y				
BTA 21	F	2	10	4,000	\$2,000,000	Y		Y	Y	Y	Y				
BTA 21	G	2	10	4,000	\$2,000,000	Y	40	Y	40	Y	10	Y	40	Y	40
BTA 22	C	2	20	3,800	\$3,800,000	N		Y	N	Y	N				
BTA 22	D	2	10	3,800	\$1,900,000	N		Y	N	Y	N				
BTA 22	E	2	10	3,800	\$1,900,000	Y		Y	Y	Y	Y				
BTA 22	F	2	10	3,800	\$1,900,000	Y		Y	Y	Y	Y				
BTA 22	G	2	10	3,800	\$1,900,000	Y	40	Y	40	Y	10	Y	40	Y	40
Used Waiver in the Second Previous Round						No		No		No		No			
Used Waiver in the Last Round						No		No		No		No			
Initial MHzPop Eligibility						452		452		218		452			
Current MHzPop Eligibility						452		452		218		452			

PCS Spectrum Auction Check Template

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Bidder: ???
 Waiver Request: ???

Auction Phase: 1
 Multiplier: 3.0
 Activity Level: 0

PopMHz Eligibility
 Initial: ???
 Current round: ???
 Next round: 0

Waiver Used
 2nd Previous: ???
 Previous: ???
 Current: ???

BID CHECK REPORT

OVERALL Rules violated.
 Minimum increment: Violated.
 Bidding eligibility: Violated.
 MHz limit rule: Violated.
 Waiver use rule: Violated.
 Activity level: Violated.
 MHz-pop eligibility: Reduced.

License	Band	Contained in MTA	Bandwidth (MHz)	POPs (thousands)	Reserve Price	Current High Bid	Identity of High Bidder	Minimum Qualifying Bid	???			Warning Messages			
									Eligible to Bid	MHz Limit in Service Area	Current Total MHz in Service	New Bid	Qualifying Bid Check	Eligibility Check	MHz Limit in Service Area Check
MTA 1	A		30	3,500	5,250,000	6,400,000	Vienna Telephone	6,720,000							
MTA 1	B		30	3,500	5,250,000	6,200,000	Microwave Tech.	6,510,000			0				
MTA 2	A		30	7,800	11,700,000	16,500,000	Vienna Telephone	17,325,000							
MTA 2	B		30	7,800	11,700,000	15,400,000	American Comm.	16,170,000			0				
BTA 11	C	1	20	2,000	2,000,000	2,100,000	Telecom Ventures	2,205,000							
BTA 11	D	1	10	2,000	1,000,000	1,100,000	Ashley Telephone	1,155,000							
BTA 11	E	1	10	2,000	1,000,000	1,050,000	Vienna Telephone	1,102,500							
BTA 11	F	1	10	2,000	1,000,000	1,025,000	Microwave Tech.	1,076,250							
BTA 11	G	1	10	2,000	1,000,000	1,025,000	American Comm.	1,076,250			0				
BTA 12	C	1	20	1,500	1,500,000	1,600,000	Telecom Ventures	1,680,000							
BTA 12	D	1	10	1,500	750,000	850,000	Ashley Telephone	892,500							
BTA 12	E	1	10	1,500	750,000	850,000	Microwave Tech.	892,500							
BTA 12	F	1	10	1,500	750,000	825,000	American Comm.	866,250							
BTA 12	G	1	10	1,500	750,000	800,000	American Comm.	840,000			0				
BTA 21	C	2	20	4,000	4,000,000	4,300,000	Ashley Telephone	4,515,000							
BTA 21	D	2	10	4,000	2,000,000	2,800,000	Telecom Ventures	2,940,000							
BTA 21	E	2	10	4,000	2,000,000	2,200,000	American Comm.	2,310,000							
BTA 21	F	2	10	4,000	2,000,000	2,000,000		2,000,000							
BTA 21	G	2	10	4,000	2,000,000	2,750,000	Microwave Tech.	2,887,500			0				
BTA 22	C	2	20	3,800	3,800,000	4,200,000	Ashley Telephone	4,410,000							
BTA 22	D	2	10	3,800	1,900,000	1,900,000		1,900,000							
BTA 22	E	2	10	3,800	1,900,000	2,300,000	American Comm.	2,415,000							
BTA 22	F	2	10	3,800	1,900,000	2,200,000	Vienna Telephone	2,310,000							
BTA 22	G	2	10	3,800	1,900,000	1,950,000	Microwave Tech.	2,047,500			0				

PCS Spectrum Auction Main Sheet

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Bidding round: 6
Auction phase: 1

PCS Spectrum Auction
SELECT FUNCTION

- CHECK SUBMISSION
- MERGE SUBMISSION
- GENERATE REPORT

License	Band	Contained in MTA	Bandwidth (MHz)	POPs (thousands)	Reserve Price	Current High Bid	Identity of High Bidder	Minimum Qualifying Bid	NUMBER OF QUALIFYING BIDS	NEW HIGH BID	NEW HIGH BIDDER	NEW BIDS					ACTIVE LICENSE CALCULATION			
												American Comm.	Ashley Telephone	Microwave Tech.	Telecom Ventures	Vienna Telephone	ACTIVE CURRENT ROUND	ACTIVE LAST ROUND	ACTIVE 2ND PREVIOUS ROUND	ACTIVE UNDER RULES
MTA 1	A		30	3,500	\$5,250,000	\$6,400,000	Vienna Telephone	\$4,720,000.00	0	\$6,400,000	Vienna Telephone						No	Yes	Yes	Yes
MTA 1	B		30	3,500	\$5,250,000	\$6,200,000	Microwave Tech.	\$4,510,000.00	0	\$6,200,000	Microwave Tech.						No	No	Yes	Yes
MTA 2	A		30	7,800	\$11,700,000	\$16,500,000	Vienna Telephone	\$17,325,000.00	0	\$16,500,000	Vienna Telephone						No	No	Yes	Yes
MTA 2	B		30	7,800	\$11,700,000	\$15,400,000	American Comm.	\$16,170,000.00	0	\$15,400,000	American Comm.						No	Yes	Yes	Yes
BTA 11	C	1	20	2,000	\$2,000,000	\$2,100,000	Telecom Ventures	\$2,205,000.00	0	\$2,100,000	Telecom Ventures						No	Yes	Yes	Yes
BTA 11	D	1	10	2,000	\$1,000,000	\$1,100,000	Ashley Telephone	\$1,155,000.00	0	\$1,100,000	Ashley Telephone						No	No	Yes	Yes
BTA 11	E	1	10	2,000	\$1,000,000	\$1,050,000	Vienna Telephone	\$1,102,500.00	0	\$1,050,000	Vienna Telephone						No	No	Yes	Yes
BTA 11	F	1	10	2,000	\$1,000,000	\$1,025,000	Microwave Tech.	\$1,076,250.00	0	\$1,025,000	Microwave Tech.						No	No	Yes	Yes
BTA 11	G	1	10	2,000	\$1,000,000	\$1,025,000	American Comm.	\$1,076,250.00	0	\$1,025,000	American Comm.						No	Yes	No	Yes
BTA 12	C	1	20	1,500	\$1,500,000	\$1,600,000	Telecom Ventures	\$1,680,000.00	0	\$1,600,000	Telecom Ventures						No	No	Yes	Yes
BTA 12	D	1	10	1,500	\$750,000	\$850,000	Ashley Telephone	\$892,500.00	0	\$850,000	Ashley Telephone						No	No	Yes	Yes
BTA 12	E	1	10	1,500	\$750,000	\$850,000	Microwave Tech.	\$892,500.00	0	\$850,000	Microwave Tech.						No	No	Yes	Yes
BTA 12	F	1	10	1,500	\$750,000	\$825,000	American Comm.	\$866,250.00	0	\$825,000	American Comm.						No	No	Yes	Yes
BTA 12	G	1	10	1,500	\$750,000	\$800,000	American Comm.	\$840,000.00	0	\$800,000	American Comm.						No	No	Yes	Yes
BTA 21	C	2	20	4,000	\$4,000,000	\$4,300,000	Ashley Telephone	\$4,515,000.00	0	\$4,300,000	Ashley Telephone						No	Yes	No	Yes
BTA 21	D	2	10	4,000	\$2,000,000	\$2,800,000	Telecom Ventures	\$2,940,000.00	0	\$2,800,000	Telecom Ventures						No	No	Yes	Yes
BTA 21	E	2	10	4,000	\$2,000,000	\$2,200,000	American Comm.	\$2,310,000.00	0	\$2,200,000	American Comm.						No	No	Yes	Yes
BTA 21	F	2	10	4,000	\$2,000,000	\$2,000,000		\$2,000,000.00	0								No	No	No	No
BTA 21	G	2	10	4,000	\$2,000,000	\$2,750,000	Microwave Tech.	\$2,887,500.00	0	\$2,750,000	Microwave Tech.						No	No	Yes	Yes
BTA 22	C	2	20	3,800	\$3,800,000	\$4,200,000	Ashley Telephone	\$4,410,000.00	0	\$4,200,000	Ashley Telephone						No	Yes	No	Yes
BTA 22	D	2	10	3,800	\$1,900,000	\$1,900,000		\$1,900,000.00	0								No	No	No	No
BTA 22	E	2	10	3,800	\$1,900,000	\$2,300,000	American Comm.	\$2,415,000.00	0	\$2,300,000	American Comm.						No	No	Yes	Yes
BTA 22	F	2	10	3,800	\$1,900,000	\$2,200,000	Vienna Telephone	\$2,310,000.00	0	\$2,200,000	Vienna Telephone						No	No	Yes	Yes
BTA 22	G	2	10	3,800	\$1,900,000	\$1,950,000	Microwave Tech.	\$2,047,500.00	0	\$1,950,000	Microwave Tech.						No	Yes	No	Yes
Current round activity level																			94.2%	
Last round activity level																			92.8%	
Last round auction phase																			1	

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Macros perform automatic opening and closing of supporting files.

Auto_Open_Startup

Opens supporting files automatically

```
=ECHO(FALSE)
=MESSAGE(TRUE,"Opening supporting sheets.")
=OPEN("Eligibility Sheet",1,TRUE)
=OPEN("Report Form",1,TRUE)
=OPEN("Check Template",1,TRUE)
=WINDOW.MAXIMIZE()

=ACTIVATE("FCC Main Sheet")
=MESSAGE(FALSE,"")
=ECHO(TRUE)
=RETURN()
```

Auto_Close_Close_All

Closes all files automatically

```
=ECHO(FALSE)

=SET.NAME("AllWindows",WINDOWS())
=FOR("counter",1,COUNTA(AllWindows))
=IF(GET.WINDOW(7,INDEX(AllWindows,counter)),GOTO(A37),)
=IF(INDEX(AllWindows,counter)="Macros",GOTO(A37),)
=ACTIVATE(INDEX(AllWindows,counter))
=CLOSE(FALSE)
=NEXT()

=CLOSE(FALSE)
=ECHO(TRUE)
=RETURN()
```

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Macro checks whether the submission is rule conforming.
Activated by clicking the Check Submission button.

MCheck (1)
Checks Submission

=ERROR(2)

Clear Status Report
=SELECT(!Status_Report)
=CLEAR()

Print status message
=SELECT(!Status_Bar)
=FORMULA("CHECKING SUBMISSION.")
=SELECT(OFFSET(ACTIVE.CELL(),-1,0,1,1))
=FORMULA("")

Open bidder's submission
=IF(OPEN?(1,TRUE)=TRUE,,GOTO(B99))
=SET.NAME("Bidder_file_name",GET.WINDOW(1))
=SET.NAME("Bidder_name",!Bidder_name)

Print bidder's name above the status message
=ACTIVATE("FCC Main Sheet")
=SELECT(OFFSET(!Status_Bar,-1,0,1,1))
=FORMULA(Bidder_name)
=ECHO(FALSE)
=MESSAGE(TRUE,"Checking submission.")

Copy bidder's name and waiver request to "Check Template"
=ACTIVATE(Bidder_file_name)
=SELECT(!Bidder_ID)
=COPY()

=ACTIVATE("Check Template")
=SELECT(!Bidder_ID)
=PASTE.SPECIAL(3,1,FALSE,FALSE)

Copy bidder's bids to "Check Template"