

FORWARD AUCTION CLOCK PHASE BIDDER DATA FILES

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1. Introduction

This document provides the data file specifications for the bidding related upload and download files that will be available to bidders during the forward auction clock phase. Each file specification includes the format of the file and definitions of the data elements in the files including a name, description, data type, examples and notes.¹ Data type definitions and notation rules are explained in an appendix attached to this document.

In addition to the data file specifications, a sample data file for each file is available on the Auction 1002 website (www.fcc.gov/auctions/1002) under the Data tab.² The sample data files show a variety of bidding scenarios over the course of seven rounds. For illustrative purposes only, bids were entered in such a way so that the fourth round was an extended round that met the final stage rule, with sample data for the fifth round therefore reflecting implementation of the market-based spectrum reserve and the split of Category 1 blocks into reserved and unreserved blocks. In the sixth round, the bidder in the sample data did not place any bids. In the seventh round, bids were placed in such a way that the clock phase ends at the conclusion of the round. Sample download files related to a new stage are also provided for the same bidder in a new stage where, in a different scenario, the final stage rule was not met, and the clearing target has been reduced by one block. We emphasize that the scenarios, sample data, and bidding examples provided are not meant to reflect any predictions or assumptions by the Commission regarding bidding activity, the number of rounds, or the outcome of the incentive auction.

2. Modifications from the Previous Version

Below is a description of all the modifications that have been made to this document and/or to the sample data files since these items were last updated in March 2016³:

- The bidding system will now allow users to upload bids in all rounds of the clock auction, rather than just the initial round of the auction. This document provides the specifications a user will need in order to prepare and upload a bid file in rounds after the initial round of the auction. See Section 4 for more information.
- A Sample Bids download file for rounds other than the initial round of the auction will now be available in the Auction System. This file provides a template for uploading bids after the initial round of the auction. See Section 3.3 for more information.
- Modifications have been made to the Sample Bids download file for the initial round of the auction:
 - Two additional fields have been added to the file to match the format of static fields used in the Sample Bids file in all other rounds. The new fields are: round and aggregate demand.

¹ The terminology used in this Public Notice is defined in the technical appendices to the *Auction 1000 Application Procedures Public Notice*. See *Application Procedures for Broadcast Incentive Auction Scheduled to Begin on March 29, 2016; Technical Formulas for Competitive Bidding*, AU Docket No. 14-252, GN Docket No. 12-268, WT Docket No. 12-269, Public Notice, DA 15-1183 (WTB 2015) (*Auction 1000 Application Procedures Public Notice*).

² The Auction 1002 website provides a single ZIP file containing the individual CSV files. The Auction System provides each of the CSV files separately.

³ See *Wireless Telecommunications Bureau Updates Broadcast Incentive Auction File Formats for Forward Auction Clock Phase, Announces a Bid Upload Feature for All Rounds, and Provides Additional Data on Impairment Data Downloads*, Public Notice, 31 FCC Rcd 2129, 2129, para. 3 (WTB 2016).

- The name of the file has changed to “sample_bids-stage1-r001.csv” to match the naming convention used for the Sample Bids file in all other rounds.

See Section 3.2 for more information.

- Two additional rejection criteria have been added to the upload bid file for the initial round of the auction. Under these additional criteria, upload bid files for the initial round will be rejected (i) if column headers for required fields are missing or invalid, and/or (ii) if a bid was submitted for a round other than round 1. See Section 4.1 for more information.
- One of the rejection criteria for the upload bid file that applies only to an extended round has been clarified.
- In the My Results file, a comment was added to the processed_demand_flag and processed_demand_detail to clarify what these fields contain for the “to” category of a switch bid. See Section 3.5 for more information.
- In the My Bids file, the inconsistency in the description of the format of entered_time has been corrected. See Section 3.4 for more information.
- In the Split Transition file, the sample split detail messages have been updated and the default sort order has changed from stage, market, category to market, category, stage. See Section 3.8 for more information.
- Other minor, non-substantive modifications have been made to the specifications and/or the sample files.
- A new set of sample data files including sample upload files in rounds after the initial round is now available on the Auction 1002 website (www.fcc.gov/auctions/1002) under the Data tab.

3. Bidder Download Files

This section provides the specifications of the bidding related download files available to bidders during the forward auction clock phase. It also includes the specifications for three additional files that will be provided at the beginning of each additional stage of the forward clock phase.

3.1. My Bidder Markets

File name: my_bidder_markets-stage#.csv

The My Bidder Markets file provides information about each product (PEA and license category combinations) available in the forward auction. It indicates whether a bidder is eligible to bid on the product based on the PEAs selected on its Form 175 application. It also indicates whether the bidder has certified it is eligible to bid on reserve spectrum in that PEA.

File Structure:

- CSV file (first row contains header).
- One record for each product available in the forward auction.

Field	Description	Data Type	Examples/Notes
auction_id	The FCC auction number for the forward auction.	String	1002
market_number	The PEA (Partial Economic Area) ID	String ([“PEA”][0-9] [0-9][0-9]){6}	PEA001
market_name	The PEA name	String	“New York, NY”

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Field	Description	Data Type	Examples/Notes
bidder	Bidder name	String	Company XYZ "ABC, Inc."
frn	The bidder's FCC Registration Number (FRN) which uniquely identifies a bidder.	Alpha-numeric {10}	0003645843
selected_market	Indicates if the bidder selected the PEA on its application form.	Character [Y N]{1}	Y
reserve_eligible	Indicates if the bidder is eligible to bid on reserve blocks in the PEA.	Character [Y N]{1}	Y

3.2. Sample Bids File for the Initial Round of the Forward Auction

File name: sample_bids-stage1-r001.csv

The Sample Bids file provides a sample template for a bidder that wants to upload its bids in the first round of the initial stage of the auction. Specifications of the bid upload feature for the initial round of the auction are given in Section 4.1 of this document. For each product (PEA and license category) it wishes to bid on, the bidder indicates the desired quantity of blocks. This file is available before and during the first round of the initial stage of the auction.

File Structure:

- CSV file (first row contains header).
- One record for each product the bidder is eligible to bid on in the forward auction.

Field	Description	Data Type	Examples/Notes
round	Round number	Integer	1
market_number	The PEA (Partial Economic Area) ID	String (["PEA"][0-9] [0-9][0-9]){6}	PEA001
market_name	The PEA name	String	"New York, NY"
category	License category	String [C1 C2] {2}	C1
bidding_units	Number of bidding units associated with the product	Integer	2300
supply	The supply of blocks associated with the product	Integer	8

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Field	Description	Data Type	Examples/Notes
aggregate_demand	The aggregate demand for the product	Integer	0 <i>Although the aggregate demand will always be zero in this Sample Bids file for the initial round of the auction, the field has been added to the file in order to have a consistent format of static fields in all Sample Bids files.</i>
quantity	Number of blocks requested	Integer	0 <i>The bidder must input its desired quantity before uploading the file.</i>

3.3. Sample Bids File for All Rounds after the Initial Round of the Auction

File name: sample_bids-stage#-r###.csv

For rounds other than the first round of the initial stage of the auction, the Sample Bids file provides a sample template for a bidder that wants to upload its bids during that round of the auction. Specifications of the bid upload feature for rounds after the initial round of the auction are given in Section 4.2 of this document. The Sample Bids download file for a given round contains default bids for each product a bidder is eligible to bid on (the same default bids are displayed in the bidding system on the bidder’s bidding screen at the beginning of a round). The default bid for a product (PEA and license category) for a given round is a simple bid for a quantity equal to the bidder’s processed demand from the previous round, for a price equal to the clock price for that product in the given round. If a bidder does not have processed demand for a product, the default bid is a quantity of zero at the clock price for the product in the given round. The Sample Bids file for a particular round is available once the information for that round has been updated in the Auction System (usually at the same time or very soon after the round results for the previous round have been posted) and becomes unavailable at the close of that round of bidding.

File Structure:

- CSV file (first row contains headers).
- One record for each product the bidder is eligible to bid on in the forward auction.

CSV Column Heading	Description	Data Type	Examples/Notes
round	Round number	Integer	12
market_number	The PEA (Partial Economic Area) ID	String (["PEA"][0-9][0-9][0-9]){6}	PEA001
market_name	PEA name	String	“New York, NY”

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CSV Column Heading	Description	Data Type	Examples/Notes
category	License category	String [C1 C1-R C1-U C2] {4}	C1
bidding_units	Number of bidding units associated with the product	Integer	2300
supply	The supply of blocks associated with the product	Integer	8
aggregate_demand	The aggregate demand for the product	Integer	15
previous_round_posted_price	Posted price for the product after processing the previous round's bids (this is the minimum bid price in the current round)	Integer	12650000
clock_price	The clock price (highest price) of the product in the round	Integer	13915000
processed_demand	The bidder's demand for the product after processing of the previous round	Integer	2
quantity	Number of blocks requested	Integer	2 <i>By default, this field contains the bidder's processed demand for the product from the previous round (or zero if the bidder did not have processed demand for the product).</i>
bid_amount	Requested price for each block	Integer	13915000 <i>By default, this field contains the clock price of the product in the round.</i>
bid_type	Type of bid	String [Simple]	Simple <i>By default, the bid type is always "Simple".</i>
switch_to_category	The license category of the "to" product in a switch bid	String [C1 C1-R C1-U C2] {4}	NULL <i>By default this field is NULL because the bid type is "Simple".</i>

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CSV Column Heading	Description	Data Type	Examples/Notes
backstop	Backstop value for an AON+ bid	Integer	NULL <i>By default this field is NULL because the bid type is "Simple".</i>
ext_round_biddable	If the auction proceeds to an extended round in a stage, this field indicates if the product is biddable during the extended round	Character [Y] {1}	Y <i>NULL if the round is not an extended round or if the product is not biddable during an extended round (e.g. a C2 product, a C1 product in a market that is not a high demand PEA, a C1 product in a high demand PEA where aggregate demand is less than supply)</i>

3.4. My Bids

File name: my_bids-stage#-r###.csv

The My Bids file provides a list of all the bids considered by the Auction System for a bidder in a round, including bids that were submitted so far in an open round. Each bid pertains to a specific product (PEA and license category combination) being offered in the forward auction. Note that the file does not contain bids that were submitted and subsequently modified within the same round, rather the file contains the list of bids the Auction System is currently considering or did consider for that bidder in the associated round.

In addition to providing information about the bid and the authorized bidder who submitted the bid, the file provides information about the associated product in that round such as the opening price, the clock price, the supply, and the bidder's processed demand for that product.

File Structure:

- CSV file (first row contains header).
- The file contains one record per round and bid combination.
- After the results of a round have been posted, this file may also contain missing bids submitted by the Auction System. A missing bid is a simple bid for a quantity of 0 at the lowest possible price for the product in that round.
- The file contains data for a single round — either a past round or the current round.
- The file contain two entries for each switch bid: one for the “from” category and one for the “to category”. The “from” and “to” categories are listed in both records in switch_from_category and switch_to_category.
- The file contains two entries for each all-or-nothing bid with a backstop. The first entry, bid_type =“AON+”, contains the price, price point, and selection number of the all-or-nothing bid. The second entry, “bid_type” = “Backstop”, contains the price, price point, and selection number of the backstop bid.

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- In an extended round, the file will contain a record for all products with processed demand from the previous round that are not biddable in the extended round. For non-biddable products a bid is automatically considered that maintains the bidder's processed demand and posted price from the previous round.

Field	Description	Data Type	Examples/Notes
auction_id	The FCC auction number for the forward auction	String	1002
stage	Stage number	Integer	1
round	Round number	Integer	12
market_number	The PEA (Partial Economic Area) ID	String (["PEA"] [0-9] [0-9] [0-9]) {6}	PEA001
market_name	The PEA name	String	"New York, NY"
category	License category	String [C1 C1-R C1-U C2]	C1
bidding_units	Number of bidding units associated with the product	Integer	2300
bidder	Bidder name	String	Company XYZ "ABC, Inc."
frn	The bidder's FCC Registration Number (FRN) which uniquely identifies a bidder	Alpha-numeric {10}	0003645843
bid_type	Type of bid	String [Simple AON AON+ Switch Backstop]	Simple <i>AON = All-or-nothing AON+ = All-or-nothing with backstop Backstop = backstop bid associated with an AON+</i>
quantity	Number of blocks requested	Integer	2 <i>This value is the requested quantity for the product (not the number of blocks to be reduced or switched).</i>
bid_amount	Requested price for each block	Integer	12500000 <i>For the "to" product in a switch bid, this value is the clock price associated with the product.</i>

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Field	Description	Data Type	Examples/Notes
price_point	The price point associated with the bid	Decimal [0-1] {12}	0.7560548272 <i>In round 1 this value is 1.0000000000.</i> <i>For the “to” product in a switch bid, this value will always be 1.0000000000 regardless of the price point of the “from” product.</i>
switch_from_category	For the “to” product in a switch bid, this field indicates the license category of the “from” product in a switch bid.	String [C1 C1-R C1-U C2] {4}	C1-U <i>NULL for Simple, AON, AON+ bid types, and the “from” product of a switch bid.</i>
switch_to_category	For the “from” product in a switch bid, this field indicates the license category of the “to” product in a switch bid.	String [C1 C1-R C1-U C2] {4}	C1-R <i>NULL for Simple, AON, AON+ bid types and the “to” product of a switch bid.</i>
supply	The supply of blocks associated with the product	Integer	8
prev_round_processed_demand	The bidder’s processed demand for the product at the start of the round.	Integer	4 <i>NULL for Stage 1, Round 1.</i>
prev_round_aggregate_demand	The aggregate demand for the product at the start of the round.	Integer	12 <i>NULL for Stage 1, Round 1.</i>
round_opening_price	The lowest price available for bidding on the associated product in the round.	Integer	1150000 <i>In Stage 1, Round 1 this is the opening price, for all other rounds it is the posted price from the previous round.</i>
round_clock_price	The clock price (highest price) of the associated product in the round.	Integer	1265000
entered_by	Name of authorized bidder or telephonic bid assistant who submitted the bid, or “System” if the Auction System submitted a missing bid.	String	Karen Smith Telephonic Bid Assistant System

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Field	Description	Data Type	Examples/Notes
entered_time	The time the bid was submitted.	String YYYY-MM-DD HH:MM:SS	2015-04-12 15:21:47 <i>All time stamps are in Eastern Time.</i>
selection_number	The pseudo-random number associated with the bid used for tie-breaking purposes.	Integer {15}	123456789012345 <i>This field is NULL until the round data is posted.</i> <i>This field is NULL in round 1 of the initial stage.</i>

3.5. My Results

File name: my_results-stage#-r###.csv

The My Results file provides a list of the results of bid processing for a bidder in a given round for all products (PEA and license category combinations) in which the bidder had processed demand in the previous round. For each product the file gives the processed demand, posted price and the aggregate demand. Additionally, if a bid was not fully applied, the file provides an indication of such and details about why one or more bids for the product were not applied. The data pertaining to bidding results for a round is available in the file once the round results have been posted.

File Structure:

- CSV file (first row contains header).
- One record for each round and product combination where the bidder had processed demand for the product in the previous round.
- The file contains data for a single round in the past.
- In an extended round, the file will contain a record for all products with processed demand at the start of the round that are not biddable in the extended round. For non-biddable products a bid is automatically considered that maintains the bidder's processed demand and posted price from the previous round.

Field	Description	Data Type	Examples/Notes
auction_id	The FCC auction number for the forward auction	String	1002
stage	Stage number	Integer	1
round	Round number	Integer	12
market_number	The PEA (Partial Economic Area) ID	String (["PEA"] [0-9] [0-9] [0-9]) {6}	PEA001
market_name	The PEA name	String	"New York, NY"
category	License category	String [C1 C1-R C1-U C2] {4}	C1

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Field	Description	Data Type	Examples/Notes
bidder	Bidder name	String	Company XYZ “ABC, Inc.”
frn	The bidder’s FCC Registration Number (FRN) which uniquely identifies a bidder	Alpha-numeric {10}	0003645843
processed_demand	The bidder’s demand for the product after processing.	Integer	2
processed_demand_flag	Indication if all bids for the product were fully processed.	Character [Y N] {1}	Y <i>If a switch bid is not fully applied, the flag will be “N” in the “from” category of the switch bid. The flag is always “Y” for the “to” category of a switch bid.</i>
processed_demand_detail	Details about why one or more bids for the product were not applied or not fully applied during bid processing.	String {500}	<p>“Simple bid to increase demand to 11 @ \$147,000,555; 2 blocks were not applied due to insufficient eligibility.”</p> <p>“AON bid to reduce demand to 0 @ \$36,600,222; 3 blocks were not applied due to insufficient aggregate demand.”</p> <p><i>If more than one detail message is applicable (e.g. intra-round bids), then the messages are separated with semi-colons.</i></p> <p><i>For a switch bid that was not fully applied, the detail message is provided in the “from” category of the switch bid.</i></p> <p><i>NULL if all bid(s) for the product were fully applied.</i></p>

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Field	Description	Data Type	Examples/Notes
aggregate_demand	The aggregate demand for the product after processing.	Integer	15
posted_price	The posted price for the product after processing.	Integer	12650000

3.6. My Product Status

File name: my_product_status-stage#-r###.csv

The My Product Status file provides the status of each product (PEA and license category combination) after bid processing in a round. For each product the file gives the posted price, aggregate demand and the clock price in the next round. Additionally the file provides supporting information about each product in that round such as the opening price and clock price, the supply, bidding units, and population.

The data pertaining to bidding results for a round is available in the file once the round results have been posted. Information pertaining to next round clock prices is available in the file once the information for the next round has been updated in the Auction System (usually at the same time or very soon after the results have been posted).

File Structure:

- CSV file (first row contains header).
- One record for each round and product combination where the bidder is eligible to bid on the product based on the PEAs it selected on its Form175.
- The file contains data for a single round in the past.
- If the next round will be an extended round, for all products not biddable in the extended round, the next_round_clock price will be the same as the posted_price.
- If the round is an extended round, for all products not biddable in the extended round, the round_opening_price and the round_clock_price will be the same.

Field	Description	Data Type	Example/Notes
auction_id	The FCC auction number for the forward auction	String	1002
stage	Stage number	Integer {1,3}	1
round	Round number	Integer	12
market_number	The PEA (Partial Economic Area) ID	String (["PEA"] [0-9] [0-9] [0-9]) {6}	PEA001
market_name	The PEA name	String	"New York, NY"
category	License category	String [C1 C1-R C1-U C2] {4}	C1

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Field	Description	Data Type	Example/Notes
round_opening_price	The lowest price available for bidding on the product in the round.	Integer	11500000 <i>In Stage 1, Round 1 this is the opening price, for all other rounds it is the posted price from the previous round.</i>
round_clock_price	The clock price (highest price) of the product in the round.	Integer	12650000
aggregate_demand	The aggregate demand for the product after processing.	Integer	15
posted_price	The posted price for the product after processing.	Integer	12650000
next_round_clock_price	The clock price (highest price) of the product in the next round.	Integer	13915000 <i>NULL if the next round has not yet been announced.</i>
bidding_units	Number of bidding units associated with the product.	Integer	2300
supply	The supply of blocks for the product.	Integer	8
population	The population in the PEA associated with the product.	Integer	25237061

3.7. My Bidder Status

File name: my_bidder_status-stage#-r###.csv

The My Bidder Status file provides information related to a bidder for a round. For each round the file gives the bidder's eligibility, required activity and bidding activity in the round. The results of bid processing are also given for the round including the bidder's processed activity as well as the bidder's eligibility and required activity for the next round. Financial information for both a bidder's requested commitments and its processed commitments are also given.

The data pertaining to the bidder's results for a round is available in the file once the round results have been posted. Information pertaining to next round eligibility and required activity is available in the file once the information for the next round has been updated in the Auction System (usually at the same time or very soon after the results have been posted).

File Structure:

- CSV file (first row contains header).
- One record for each round
- The file contains data for a single round in the past.

Field	Description	Data Type	Examples/Notes
auction_id	The FCC auction number for the forward auction.	String	1002

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Field	Description	Data Type	Examples/Notes
stage	Stage number	Integer {1,3}	1
round	Round number	Integer	12
bidder	Bidder name	String	Company XYZ "ABC, Inc."
frn	The bidder's FCC Registration Number (FRN) which uniquely identifies a bidder.	Alpha-numeric {10}	0003645843
bidding_credit_pct	The bidding credit percentage associated with the bidder.	Integer	15 <i>0 = no bidding credit 15 = 15% bidding credit</i>
bidding_credit_type	Indicates the type of bidding credit that the bidder is eligible to receive.	String [Rural Small Business]	Small Business <i>Rural = bidder is eligible for the rural service provider bidding credit</i> <i>Small Business = bidder is eligible for a small business bidding credit</i> <i>NULL if the bidder is not eligible for a bidding credit.</i>
eligibility	The bidder's eligibility in bidding units at the start of round.	Integer	8000000
required_activity	The bidder's required activity in bidding units for the round.	Integer	5000000
activity	The bidder's bidding activity in bidding units for the round.	Integer	4000000
req_commitment	The bidder's requested commitment in dollars for the round.	Integer	346000000
req_commitment_discount_capped	The bidder's requested discount in dollars for the round based on any bidding credits and applying any applicable bidding credit caps.	Integer	150000000 <i>NULL if the bidder is not eligible for a bidding credit.</i>

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Field	Description	Data Type	Examples/Notes
req_net_commitment	The bidder's requested net commitment in dollars for the round.	Integer	296000000 <i>NULL if the bidder is not eligible for a bidding credit.</i>
req_commitment_discount_uncapped	The bidder's requested discount in dollars for the round based on any bidding credits without applying any applicable bidding credit caps.	Integer	156000000 <i>NULL if the bidder is not eligible for a bidding credit.</i>
req_commitment_discount_uncapped_small	The bidder's requested discount in dollars for the round in the small markets based on any bidding credits without applying any applicable bidding credit caps.	Integer	11000000 <i>Contains a value if the bidder is eligible for a small business bidding credit, NULL otherwise.</i>
processed_activity	The bidder's bidding activity in bidding units after processing.	Integer	4100000 <i>NULL if the round results have not yet been posted.</i>
commitment	The bidder's commitment in dollars for the round.	Integer	348500000 <i>NULL if the round results have not yet been posted.</i>
commitment_discount_capped	The bidder's discount in dollars for the round based on any bidding credits and applying any applicable bidding credit caps.	Integer	150000000 <i>NULL if the bidder is not eligible for a bidding credit.</i>
net_commitment	The bidder's net commitment in dollars for the round.	Integer	298500000 <i>NULL if the bidder is not eligible for a bidding credit.</i>
commitment_discount_uncapped	The bidder's discount in dollars for the round based on any bidding credits without applying any applicable bidding credit caps.	Integer	156900000 <i>NULL if the bidder is not eligible for a bidding credit.</i>

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Field	Description	Data Type	Examples/Notes
commitment_discount_uncapped_small	The bidder's discount in dollars for the round in the small markets based on any bidding credits without applying any applicable bidding credit caps.	Integer	11900000 <i>Contains a value if the bidder is eligible for a small business bidding credit, NULL otherwise.</i>
next_round_eligibility	The bidder's eligibility in bidding units at the start of the next round.	Integer	5125000 <i>NULL if the next round has not been announced.</i>
next_round_required_activity	The bidder's required activity in bidding units for the next round.	Integer	4100000 <i>NULL if the next round has not been announced.</i>

3.8. My Split Transition

File name: my_split_transition-stage#.csv

The My Split Transition file provides a bidder with information about the supply of products (PEA and license category combinations) before and after implementation of the spectrum reserve — i.e., the split of Category 1 blocks into reserved and unreserved blocks by PEA — as well as information about how the bidder's demand for those products was allocated during the split. If the Auction System reduced the bidder's processed demand because of changes in the supply of the Category 1 product after the split, this file also provides detailed information about why. This file will be available after the round for which processing determined that the final stage rule was met, triggering the split.

File Structure:

- CSV file (first row contains header).
- One record for each product the bidder is eligible to bid on based on the PEAs it selected on its Form175.

Field	Description	Data Type	Examples/Notes
auction_id	The FCC auction number for the forward auction	String	1002
stage	Stage number	Integer	1
round	Round number in which the reserve spectrum split occurred	Integer	12
market_number	The PEA (Partial Economic Area) ID	String (["PEA"] [0-9] [0-9] [0-9]) {6}	PEA001
market_name	The PEA name	String	"New York, NY"

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Field	Description	Data Type	Examples/Notes
bidder	Bidder name	String	Company XYZ "ABC, Inc."
frn	The bidder's FCC Registration Number (FRN) which uniquely identifies a bidder.	Alpha-numeric {10}	0003645843
reserve_eligible	Indicates if the bidder is eligible to bid on reserve blocks in the PEA.	Character [Y N]{1}	Y
supply_c1	Number of Category 1 blocks available in the PEA before the reserve spectrum split.	Integer	8
supply_c2	Number of Category 2 blocks available in the PEA.	Integer	8
processed_demand_c1	The bidder's processed demand for Category 1 blocks in the PEA before the reserve spectrum split.	Integer	2
processed_demand_c2	The bidder's processed demand for Category 2 blocks in the PEA.	Integer	0
supply_c1_r	The supply of Category 1 reserved blocks in the PEA after the reserve spectrum split.	Integer	3
supply_c1_u	The supply of Category 1 unreserved blocks in the PEA after the reserve spectrum split.	Integer	5
processed_demand_c1_r	The allocation of the bidder's processed demand for Category 1 blocks in the PEA to the reserved spectrum category after the reserve spectrum split.	Integer	2
processed_demand_c1_u	The allocation of the bidder's processed demand for Category 1 blocks in the PEA to the unreserved spectrum category after the reserve spectrum split.	Integer	0

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Field	Description	Data Type	Examples/Notes
split_selection_number	The pseudo-random number used for tie-breaking purposes that is assigned to the bidder for the PEA.	Integer {10}	1837562937 <i>NULL when the bidder is reserve-eligible in the PEA but does not have any demand for Category 1 blocks.</i> <i>NULL when the bidder is not reserve eligible in the associated PEA.</i>
split_detail	Details about why a bidder's bids for products in the PEA were not applied or fully applied during bid processing or why the bidder's processed demand for Category 1 blocks in the PEA was reduced at the time of the reserve spectrum split.	String	"Simple bid to reduce demand to 1 @ \$40,848,999: 1 block was not applied because the final stage rule was met before your bid was processed." "Your processed demand has been reduced due to the supply of C1-U blocks after the reserve spectrum split." <i>NULL if there are no applicable details.</i>

3.9. My Stage Transition

File name: my_stage_transition-stage#.csv

The My Stage Transition file provides a bidder with information about the change in aggregate demand and supply of products (PEA and license category combinations) from the previous stage after the auction transitions to a new stage. The file also provides a bidder with information about the change in its processed demand for those products. This file will be available at the beginning of a new stage.

File Structure:

- CSV file (first row contains header).
- One record for each stage and product combination where the bidder is eligible to bid on the product.

Field	Description	Data type	Example/Notes
auction_id	The FCC auction number for the forward auction	String	1002
stage	Stage number	Integer	1
market_number	The PEA (Partial Economic Area) ID	String (["PEA"][0-9] [0-9][0-9]){6}	PEA001

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Field	Description	Data type	Example/Notes
market_name	The PEA name	String	“New York, NY”
category	License category	String [C1 C2]	C1
bidder	Bidder name	String	Company XYZ “ABC, Inc.”
frn	The bidder’s FCC Registration Number (FRN) which uniquely identifies a bidder.	Alpha-numeric {10}	0003645843
supply	The supply of blocks in the product and stage.	Integer	8
aggregate_demand	The aggregate demand for the product and stage.	Integer	15
processed_demand	The bidder’s processed demand for the product and stage.	Integer	4

3.10. Block Transition

File name: block_transition-stage#.csv

The Block Transition file provides a bidder with information about the change in blocks from the previous stage after the auction transitions to a new stage. The block letter and associated frequencies for the band plan from the previous stage and the current stage are listed. This file will be available at the beginning of a new stage.

File Structure:

- CSV file (first row contains header).
- One record for each stage

Field	Description	Data type	Example/Notes
auction_id	The FCC auction number for the forward auction	String	1002
stage	Stage number	Integer	1
supply	The maximum supply of blocks in the band plan for the stage.	Integer	8
description_a	Frequency range for block A	String {0,50}	558-563 MHz + 640-645 MHz <i>NULL if this block is not being offered</i>
description_b	Frequency range for block B	String {0,50}	563-568 MHz + 645-650 MHz <i>NULL if this block is not being offered</i>
description_c	Frequency range for block C	String {0,50}	568-573 MHz + 650-655 MHz <i>NULL if this block is not being offered</i>

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Field	Description	Data type	Example/Notes
description_d	Frequency range for block D	String {0,50}	573-578 MHz + 655-660 MHz <i>NULL if this block is not being offered</i>
description_e	Frequency range for block E	String {0,50}	578-583 MHz + 660-665 MHz <i>NULL if this block is not being offered</i>
description_f	Frequency range for block F	String {0,50}	583-588 MHz + 665-670 MHz <i>NULL if this block is not being offered</i>
description_g	Frequency range for block G	String {0,50}	588-593 MHz + 670-675 MHz <i>NULL if this block is not being offered</i>
description_h	Frequency range for block H	String {0,50}	593-598 MHz + 675-680 MHz <i>NULL if this block is not being offered</i>
description_i	Frequency range for block I	String {0,50}	598-603 MHz + 680-685 MHz <i>NULL if this block is not being offered</i>
description_j	Frequency range for block J	String {0,50}	603-608 MHz + 685-690 MHz <i>NULL if this block is not being offered</i>
description_k	Frequency range for block K	String {0,50}	619-624 MHz + 690-695 MHz <i>NULL if this block is not being offered</i>
description_l	Frequency range for block L	String {0,50}	624-629 MHz + 695-700 MHz <i>NULL if this block is not being offered</i>

3.11. Market-Block Transition

File name: market_block_transition-stage#.csv

The Market-Block Transition file provides a bidder with information about the change in impairment levels from the previous stage in each block of each PEA after the auction transitions to a new stage. The percent of impairment for each PEA-block combination from the previous stage and the current stage are listed. This file will be available at the beginning of a new stage.

File Structure:

- CSV file (first row contains header).
- One record for each stage and PEA-block combination

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Field	Description	Data type	Example/Notes
auction_id	The FCC auction number for the forward auction	String	1002
stage	Stage number	Integer	1
market_number	The PEA (Partial Economic Area) ID	String ([“PEA”][0-9] [0-9][0-9]){6}	PEA001
market_name	The PEA name	String	“New York, NY”
block	The block identifier	Character [A-L]{1}	A
category	License category	String [C1 C2]{2}	C1
percent_impaired	The percent of population in the PEA with predicted impairment.	Decimal [0.0-100.0]	11.2

4. Bidder Upload File

4.1. Bid Upload in the Initial Round of the Auction

During the first round of the initial stage of the auction when a bidder must input its initial demand for products, the bidder may utilize an initial round bid upload feature in the Auction System. A sample template is provided to the bidder as a download (see Section 3.2 *Sample Bids File for the Initial Round of the Auction*). A bidder may simply download a sample file, enter the quantities requested for each product, and upload the file to the Auction System. The Sample Bids File contains all the products that the bidder is eligible to bid on. If a bidder does not want to bid on one of its eligible products it may either omit it from the file or enter a quantity of 0 for that product.

File Requirements:

- The upload file must be in CSV format. A particular file name is not required.
- The following fields are required, all others will be ignored:
 - Round number (column header “round”)
 - PEA number (column header “market_number”)
 - License category (column header “category”)
 - Quantity (column header “quantity”)
- A bid upload file will be rejected in its entirety if any of the following conditions occur:
 - Column headers for required fields are missing or invalid
 - A bid was submitted for a round other than round 1
 - A bid was submitted for an invalid product (a PEA-license category combination that is not available in the first stage of the forward auction)
 - A bid was submitted for a product that is not on the bidder’s Form 175
 - A bid was submitted for a product with a quantity that is not a whole number greater than or equal to 0 and less than or equal to the supply of the product
 - The sum of the bidding units for the quantities bid exceeds the bidder’s eligibility

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Field	Description	Data Type	Examples/Notes
round	Round number	Integer	1
market_number	The PEA (Partial Economic Area) ID	String (["PEA"][0-9] [0-9][0-9]){6}	PEA001
market_name	The PEA name	String	"New York, NY" <i>This field is optional.</i>
category	License category	String [C1 C2] {2}	C1
bidding_units	Number of bidding units associated with the product	Integer	2300 <i>This field is optional.</i>
supply	The supply of blocks associated with the product	Integer	8 <i>This field is optional.</i>
aggregate_demand	The aggregate demand for the product	Integer	0 <i>This field is optional.</i> <i>Although the aggregate demand will always be zero for the initial round of the auction, this field has been added to the file in order to have a consistent format of static fields in all bid upload files.</i>
quantity	Number of blocks requested	Integer	2

4.2. Bid Upload in All Rounds after the Initial Round of the Auction

For rounds other than round 1 of the initial stage of the auction, a bidder may utilize a bid upload feature in the Auction System to upload bids for that round. A sample template is provided to the bidder as a download (see Section 3.3 *Sample Bids for All Rounds after the Initial Round of the Auction*). A bidder may simply upload its Sample Bids download file for a round if it wishes to submit the default bids for each of its products. The default bid for a product for a given round is a simple bid for a quantity equal to the bidder's processed demand from the previous round at a price equal to the clock price for that product in the given round. If a bidder does not have processed demand for a product the default bid is a quantity of zero at the clock price for the given round. If a bidder does not want to submit its default bids, it may modify the Sample Bids file prior to uploading it to the Auction System. The bidder may also create its own bid upload file. The file specifications and criteria for rejection of a bid upload file are given below. Bid upload files will not be partially accepted. That is, if there are any errors in the bid upload file, the file will be rejected in its entirety. If the bid upload file contains one or more errors and is therefore

rejected, the bidding system will display the errors on the bidding screen and the bidder may then edit the file and upload it again.

File Requirements:

- The bid upload file must be in CSV format. A particular file name is not required.
- The following fields are required in a bid upload file, all others will be ignored:
 - Round number (column header “round”)
 - PEA number (column header “market_number”)
 - License category (column header “category”)
 - Quantity (column header “quantity”)
 - Bid amount (column header “bid_amount”)
 - Type of bid (column header “bid_type”)
 - For switch bids: switch “to” category (column header “switch_to_category”)
 - For AON+ bids: backstop price (column header “backstop”)
- The bid upload file must contain a row for all products for which the bidder had processed demand greater than zero after bid processing of the previous round. The only exception is a switch bid, in which case the “to” product should not be listed in the upload file as a separate row as it is already defined in the “from” product row.
- A bid upload file will be rejected in its entirety if any of the following conditions occur:
 - Column headers for required fields are missing or invalid
 - The bidding activity associated with the set of bids in the bid upload file exceed the bidder’s eligibility
 - A bid was submitted for a round other than the current round
 - A bid was submitted for an invalid product (a PEA-license category combination that is not offered in the stage)
 - A bid was submitted for a PEA that the bidder is not eligible to bid on (i.e., the PEA was not selected on the bidder’s FCC Form 175)
 - A bid was submitted for a reserve product (C1-R category) for a PEA in which the bidder is not reserve-eligible
 - A bid was submitted for a product with a bid amount that was not between the previous round’s posted price and the current clock price
 - An invalid type of bid was specified for a product
 - A bid was submitted for a product with a quantity that is not a whole number greater than or equal to 0 and less than or equal to the supply of the product
 - A simple bid was submitted for a product with a quantity equal to the product’s processed demand from the previous round but for a bid amount other than the clock price for the product in the current round
 - A bid was submitted for a product with the same quantity as was specified at a different price for that product
 - Multiple bids were submitted for a product such that when the bids were sorted in ascending order by bid amount, the requested quantities were not all increasing or all decreasing
 - Multiple bids of different types (simple, AON, AON+, switch) were submitted for the same product

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- An AON or AON+ bid was submitted for a product with a quantity that is not at least two blocks higher or lower than the product’s processed demand
- An AON+ bid was specified for a product with a bid amount equal to the product’s current round clock price or with a bid amount that is greater than or equal to the backstop price specified for that product.
- An AON+ bid was submitted for a product with a missing or invalid backstop price
- A simple, AON or AON+ bid was submitted for a reserve product (C1-R category) of a PEA with a quantity that violates the small market cap (a bidder cannot bid for more than two reserve spectrum blocks in certain small markets)
- The upload file contained a row for a product that was specified as the “to” product of a switch bid
- A switch bid was submitted for a product with a quantity that is greater than or equal to the processed demand of the “from” product from the previous round
- A switch bid was submitted with an invalid or missing “to” category
- A switch bid was submitted for a PEA where the resulting quantity would exceed the supply of the “to” product
- A switch bid was submitted for a product where the resulting quantity would exceed the small market cap of the “to” product (C1-R category)
- A switch bid was submitted with a “to” category of “C1-R” for a PEA in which the bidder is not reserve-eligible
- Multiple switch bids were submitted for the same PEA in which a given category was listed as both a “from” and a “to” category
- A bid to increase or decrease demand was submitted for a product in the extended round that is not biddable in the extended round
- A bid was submitted in the extended round that was neither (a) a simple bid for the same demand at the clock price nor (b) a simple bid with a reduction of 1 at a bid amount between the previous round’s posted price and the clock price

CSV Column Heading	Description	Data Type	Examples/Notes
round	Round number	Integer	12
market_number	The PEA (Partial Economic Area) ID	String ([“PEA”][0-9] [0-9][0-9]){6}	PEA001
market_name	PEA name	String	“New York, NY” <i>This field is optional.</i>
category	License category	String [C1 C1-R C1-U C2] {4}	C1 <i>For a switch bid, this value is associated with the “from” product.</i>
bidding_units	Number of bidding units associated with the product	Integer	2300 <i>This field is optional.</i>

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CSV Column Heading	Description	Data Type	Examples/Notes
supply	The supply of blocks associated with the product	Integer	8 <i>This field is optional.</i>
aggregate_demand	The aggregate demand for the product and stage	Integer	12 <i>This field is optional</i>
previous_round_posted_price	Posted price for the product after processing the previous round's bids (this is the minimum bid price in the current round)	Integer	3000000 <i>This field is optional.</i>
clock_price	The clock price (highest price) of product in the current round	Integer	4000000 <i>This field is optional.</i>
processed_demand	The bidder's processed demand for the product at the start of the round	Integer	4 <i>This field is optional.</i>
quantity	Number of blocks requested	Integer	2 <i>This field can be NULL if processed_demand = 0.</i>
bid_amount	Requested price for each block	Integer	3500000 <i>For a switch bid, this value is associated with the "from" product.</i>
bid_type	Type of bid	String [Simple AON AON+ Switch]	Simple <i>AON = All-or-nothing</i> <i>AON+ = All-or-nothing with backstop</i>
switch_to_category	The license category of the "to" product in a switch bid	String [C1 C1-R C1-U C2] {4}	C1-R <i>Required for a Switch bid type. Must be NULL for Simple, AON, and AON+ bid types.</i>
backstop	Backstop value for an AON+ bid	Integer	3900000 <i>Required for AON+ bid type. Must be NULL for Simple, AON, and Switch bid types.</i>

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CSV Column Heading	Description	Data Type	Examples/Notes
ext_round_biddable	If the auction proceeds to an extended round in a stage, this field indicates if the product is biddable during the extended round	Character [Y]{1}	Y <i>This field is optional.</i> <i>NULL if the round is not an extended round or if the product is not biddable during an extended round (e.g. a C2 product, a C1 product in a market that is not a high demand PEA, a C1 product in a high demand PEA where aggregate demand is less than supply)</i>

5. Appendix: Data Type Definitions

The following is a guide to interpreting data types defined in this document. This guide is based on regular expressions used in XML standards.

Valid Data Types used in this Document

Character: A character is a single standard ASCII character. The following list has examples of valid ASCII characters:

- a
- D
- 3
- %

String: A string contains one or more characters and can contain whitespace. The following list has examples of valid strings:

- PEA001
- 005
- 588.3-593.3 MHz + 628.3-633.3 MHz
- Huntsville-Decatur-Florence, AL

Note that strings containing a comma that are included in a CSV formatted file need to include quotation marks around them. In the above example, “Huntsville-Decatur-Florence, AL” would be the correct format for the string in a CSV file.

Numeric: Numeric is a generic data type that covers a number of different underlying data types. As a result, anything defined as numeric could be any of the following:

- Decimal
- Integer
- Long

Integer: The integer data type is used to specify a numeric value without a fractional component.

- It’s assumed that any Integers defined in this document are unsigned and never include a (+) plus or (-) minus sign. Any signed Integers containing a + or – are considered invalid.
- If the Integer is of defined length then curly brackets should be used. E.g., {3} indicates the integer should be exactly 3 numbers long.

The following list has examples of valid Integers:

- 009
- 9
- 2147483647

The following list has examples of *invalid* Integers:

- -009

- +009

Restricting values for a data type

Restrictions are used to define acceptable values for any given data type. The following lexicon is used when defining data types:

- Square brackets define the *pattern*.
 - e.g., [A-L] means only the uppercase letters A through L are allowed.
 - e.g., [U|D] means only the uppercase letters U or D are allowed.
 - e.g., [0-9] means only the numbers 0 through 9 are allowed
- Curly brackets define the *length* including whitespace.
 - e.g., {3} means the value has to be exactly 3 characters long.
 - e.g., {1,3} means the value has to be a minimum of 1 character and a maximum of 3 characters.
 - e.g., {0,50} means the value has to be a minimum of 0 characters and a maximum of 50 characters.

Example 1:

The Data Type is defined as follows:

Integer
{3}

The curly brackets mean only a 3 digit integer is allowed.

Valid Values for example 1:

- 009
- 056
- 102

Invalid Values for example 1:

- 09
- 3502
- 1
- +12
- -35

Example 2:

The Data Type is defined as follows:

String
[A-L]{1}

The square brackets mean only the uppercase letters A through L are allowed and the curly brackets mean it must be exactly 1 character long.

Valid Values for example 2:

- B
- L

Invalid Values for example 2:

- a

- M
- 6

Example 3:

The Data Type is defined as follows:

String
[0-9]{3}

The square brackets mean only the numbers 0 through 9 are allowed and the curly brackets mean it must be 3 characters long.

Valid Values for example 3:

- 001
- 023
- 358

Invalid Values for example 3:

- 2
- 01
- 2026

Example 4:

The Data Type is defined as follows:

String
[0-9]{1,2}

The square brackets mean only the numbers 0 through 9 are allowed and the curly brackets mean it must be a minimum of 1 character long and a maximum of 2 characters long.

Valid Values for example 4:

- 4
- 04
- 41

Invalid Values for example 4:

- 123
- Blank or null value

Example 5:

The Data Type is defined as follows:

String
[US|CA|MX]{2}

The square brackets mean the pattern must be either US, CA or MX. The curly brackets mean it must be exactly 2 characters long.

Valid Values for example 5:

- US
- CA

Invalid Values for example 5:

- C
- USA

Example 6:

The Data Type is defined as follows:

String
(["PEA"][0-9][0-9][0-9]){6}

The square brackets inside the round brackets mean the pattern must be a concatenation of the text "PEA" followed by three single numbers, with each number ranging from 0 through 9. The curly brackets mean it must be exactly 6 characters long.

Valid Values for example 6:

- PEA002
- PEA356

Invalid Values for example 6:

- PEA0001
- PEA-005
- PEA-05
- PEA-0512
- PEA-2

Example 7:

The Data Type is defined as follows:

String
{0,50}

The absence of square brackets mean there are no restrictions to the characters in this string. The curly brackets mean it must be a minimum of 0 characters long (i.e., can be blank/null) and a maximum of 50 characters long.

Valid Values for example 7:

- 588.3-593.3 MHz + 628.3-633.3 MHz
- Albuquerque-Santa Fe, NM

Invalid Values for example 7:

- Greenville-Spartanburg, SC-Asheville, NC-Anderson, SC
- This is an invalid string which is longer than 50 characters including spaces.