Auction 110
Clock Phase Bidder Data File Formats

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1. Introduction

This document provides the data file specifications for the FCC Auction Bidding System upload and download files that will be available to bidders during the clock phase of Auction 110. 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. Data type definitions and notation rules are explained in an appendix to this document.

2. Bidder Download Files

This section provides the specifications of the bidding-related download files available to bidders during the auction.

2.1. My Markets

File name: my_markets.csv

The My Markets file provides information about each market available in the clock auction. It indicates whether a bidder is eligible to bid on the market based on the PEAs selected on its FCC Form 175 application.

File Structure:

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

Field	Description	Data Type	Examples
auction_id	The FCC auction number for the auction	String	110 110-Mock
bidder	Bidder name	String	Company XYZ "ABC, Inc."
frn	The bidder's FCC Registration Number (FRN) which uniquely identifies the bidder	String [0-9]{10}	0003645844
market	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"
selected_market	A flag that indicates whether the bidder selected the PEA on its application form	String [Y|N] {1}	Y N

2.2. Sample Bid Template Files

File name: (# = round number)	**Round 1**	**Round 2+**
• my_bid_template_with_my_markets_round_#.csv	Yes	Yes
• my_bid_template_with_submitted_bids_round_#.csv	Yes	Yes
• my_bid_template_with_default_bids_round_#.csv	No	Yes

There are three different bid template files available to bidders. The My Markets Template and the Submitted Bids Template exist for all rounds. The Default Bids Template exists for Round 2 and later.

Each template provides a list of products (category/PEA combinations) to bid on. The list of products, and the default quantity and price will vary, depending on which template is used. The template provides a starting point for the bidder. A bidder can modify the contents, as appropriate.

Definitions of templates:

Template	File Name	Products Included	Quantity, Price and Bid Type
My Markets Template	my_bid_template_with_my_markets_round_#.csv	All products within markets that the bidder has selected to bid for in Form 175	Null
Submitted Bids Template	my_bid_template_with_submitted_bids_round_#.csv	All products within markets that the bidder has selected to bid for in Form 175. If a bidder placed multiple bids for a product, then there will be multiple records for that product (one per each unique price) in this template. If a bidder placed a switch bid for a market, then there will be a single entry for each switch bid for the "from" category and no record for the "to" category.	The submitted bids quantities, prices, and bid types for products that have bids; otherwise, null
Default Bids Template	my_bid_template_with_default_bids_round_#.csv	All products within markets that the bidder has selected to bid for in Form 175	For products that have a processed demand greater than zero, Quantity = Processed Demand, Price = Clock Price, Bid Type = Simple; otherwise, null

File Structure:

- CSV file (first row contains header)
- The number of rows depends on the template. See the table above.

Field	Description	Data Type	Examples/*Notes*
MARKET	The PEA (Partial Economic Area) ID	String (["PEA"][0-9] [0-9][0-9]){6}	PEA001
CATEGORY	The license category	String [Cat1|Cat2] {4}	Cat1 Cat2
QUANTITY	Quantity associated with the bid (in blocks)	Integer	2 *For a switch bid, this will contain the quantity associated with the "from" product (not the number of blocks to be reduced or switched)* *Null when bid_type is DELETE* *Null if no bid has been submitted for a product in the Submitted Bids Template download* *Null if a product has no processed demand in the Default Bids Template download* *Null in the My Markets Template download*
PRICE	Price associated with the bid (per block)	Integer with optional thousands separator	3500000 "35,000,000" *Null when bid_type is DELETE* *Null if no bid has been submitted for a product in the Submitted Bids Template download* *Null if a product has no processed demand in the Default Bids Template download* *Null in the My Markets Template download*

Field	Description	Data Type	Examples/*Notes*
BID_TYPE	Type of bid	String [Simple|Switch| DELETE]	Simple Switch DELETE *This field is not case sensitive* *Null if no bid has been submitted for a product in the Submitted Bids Template download* *Null if a product has no processed demand in the Default Bids Template download* *Null in the My Markets Template download*
SWITCH_TO_CATEG ORY	The license category of the "to" product in a switch bid	String	Cat1 Cat2 *Must be specified for a Switch* *This field is not case sensitive* *Null if bid type is "Simple" or "DELETE"* *Null if no bid has been submitted for a product in the Submitted Bids Template download* *Null if a product has no processed demand in the Default Bids Template download* *Null in the My Markets Template download*
round	Round number	Integer	12

Field	Description	Data Type	Examples/*Notes*
price_point	The price point associated with the bid	Decimal [0-1] {10}	0.7560548272 *In round 1 this value is 1.0000000000 if a bid was submitted for a product* *Null if no bid has been submitted for a product* *Null in the My Markets Template download*
missing_bid	A flag indicating a product where the bidder had processed demand in the last round but did not have any bids in the current round at the time of the download	String [Y] {1}	Y *Null for a product where the bidder did not have processed demand last round* *Null for a product where the bidder had processed demand last round and has at least one submitted bid in this round* *Null in the Default Bids Template download* *Null in the My Markets Template download*
market_name	The PEA name	String	"New York, NY"
small_market_indicator	A flag that indicates whether the market is subject to the small market bidding cap	String [Y|N] {1}	Y N
notable	A flag that indicates whether the product is notable (subject to cooperative sharing restrictions or subject to restrictions resulting from the STA granted to Lockheed Martin Corporation) and bidders should investigate details	String [Y|N] {1}	Y N
population	Population of the PEA	Integer	25237061

Field	Description	Data Type	Examples/*Notes*
bidding_units	Bidding units per block associated with the product	Integer	2300
supply	The supply of blocks associated with the product	Integer	7
previous_round_aggregate_demand	The aggregate demand for the product at the start of the round	Integer	12 *Null for Round 1*
previous_round_processed_demand	The bidder's processed demand for the product at the start of the round	Integer	4 *Null for Round 1* *Null if the bidder does not have processed demand for the product at the start of the round*
start_of_round_price	The lowest price per block available for bidding on the product in the round	Integer	3000000 *For Round 1, this is the opening price*
clock_price	The clock price (highest price) per block for the product in the round	Integer	4000000 *For Round 1, this is the opening price*

2.3. My Bidding Errors

File name: my_bidding_errors_round_#.csv (# = round number)

The My Bidding Errors file contains a detailed account of errors from the last time the bidder's upload had errors, or a quick action (deleting all bids or submitting default bids) was not successful. Up to 50 errors will be reported for an unsuccessful upload or quick action.

This file is available if the last upload or quick action was unsuccessful. It is not available if the last action was a successful upload, if the last quick action was successful (deleting all bids or submitting default bids), if the next round's prices have been announced, or if the clock phase concludes.

File Structure:

- CSV file (first row contains header)
- The number of rows depends on the number of errors

Field	Description	Data Type	Examples/Notes
auction_id	The FCC auction number for the auction	String	110 110-Mock

Field	Description	Data Type	Examples/Notes
round	Round number of upload	Integer	11
bidder	Bidder name	String	Company XYZ "ABC, Inc."
frn	The bidder's FCC Registration Number (FRN) which uniquely identifies the bidder	String [0-9]{10}	0003645844
line_no	Line number containing the error	Integer	102 *Null if error is not specific to a row*
error_code	Error code	String	E100
error_description	Error description	String	MARKET is missing or invalid
MARKET	The PEA (Partial Economic Area) ID	String (["PEA"][0-9][0-9][0-9]){6}	PEA001 *Null if error is not specific to a row*
CATEGORY	The license category	String [Cat1|Cat2] {4}	Cat1 Cat2 *Null if error is not specific to a row*
QUANTITY	Number of blocks specified in the bid	Integer	2 *Null if error is not specific to a row*
PRICE	Price per block specified in the bid	Integer	3500000 *Null if error is not specific to a row*
BID_TYPE	Type of bid	String [Simple|Switch|DELETE]	Simple Switch DELETE *Null if error is not specific to a row*
SWITCH_TO_CATEGORY	The license category of the "to" product in a switch bid	String	Cat1 Cat2 *Null if the error is not specific to a row*
market_name	The PEA name	String	"New York, NY" *Null if MARKET is invalid or error is not specific to a row*

Field	Description	Data Type	Examples/Notes
previous_round_processed_demand	The bidder's processed demand for the product at the start of the round	Integer	4 *Null if the bidder does not have processed demand for the product at the start of the round* *Null if MARKET-CATEGORY combination is invalid or error is not specific to a row*
start_of_round_price	The lowest price per block available for bidding on the product in the round	Integer	3000000 *For Round 1, this is the opening price* *Null if MARKET-CATEGORY combination is invalid or error is not specific to a row*
clock_price	The clock price (highest price) per block for the product in the round	Integer	4000000 *For Round 1, this is the opening price* *Null if MARKET-CATEGORY combination is invalid or error is not specific to a row*
upload_filename	Name of file that the bidder uploaded	String	Sample_bid1.csv
placed_by	Name of authorized bidder who submitted the uploaded bid	String	Joe Smith
placed_time	The time the bid was submitted	String YYYY-MM-DD HH:MM:SS	2021-05-04 13:21:47 *All times are in Eastern Time*

2.4. My Bids

File name: my_bids_round_#.csv (# = round number)

The My Bids file provides a list of all the bids considered by the bidding 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 being offered in the clock 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 bidding 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 start of round price, the clock price, the supply, and the bidder's processed demand for that product.

File Structure:

- CSV file (first row contains header)
- One record per round and bid combination
- The file contains 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.
- After the round closes and prior to results of a round being posted, the file may also contain missing bids submitted by the bidding 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 given round

Field	Description	Data Type	Examples/*Notes*
auction_id	The FCC auction number for the auction	String	110 110-Mock
round	Round number	Integer	12
bidder	Bidder name	String	Company XYZ "ABC, Inc."
frn	The bidder's FCC Registration Number (FRN) which uniquely identifies the bidder	String [0-9]{10}	0003645844
market	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	The license category	String [Cat1|Cat2] {4}	Cat1 Cat2
bidding_units	Bidding units per block associated with the product	Integer	2300
bid_type	Type of bid	String [Simple|Switch]	Simple Switch
quantity	Quantity associated with the bid (in blocks)	Integer	2 *This value is the requested quantity for the product (not the number of blocks to be reduced)*
price	Price associated with the bid (per block)	Integer	125000

Field	Description	Data Type	Examples/*Notes*
price_point	The price point associated with the bid	Decimal [0-1] {10}	0.7560548272 *In Round 1 this value is 1.0000000000* *For the "to" product in a switch bid, this value will always be 1.0000000000 regardless of the price point of the "from" product*
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 [Cat1|Cat2] {4}	Cat1 Cat2 *Null for Simple and the "from" product of a switch bid*
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 [Cat1|Cat2] {4}	Cat1 Cat2 *Null for Simple and the "to" product of a switch bid*
supply	The supply of blocks associated with the product	Integer	5
previous_round_aggregate_demand	The aggregate demand for the product at the start of the round	Integer	12 *Null for Round 1*
previous_round_processed_demand	The bidder's processed demand for the product at the start of the round	Integer	4 *Null for Round 1*
start_of_round_price	The lowest price per block available for bidding on the product in the round	Integer	11500000 *In Round 1 this is the opening price, for all other rounds it is the posted price from the previous round*
clock_price	The clock price (highest price) per block for the product in the round	Integer	12650000
selection_number	The pseudo-random number associated with the bid used for tie-breaking purposes	Integer {1, 15}	123456789012345 *This field is populated after the round closes and prior to posting results*

Field	Description	Data Type	Examples/*Notes*
placed_by	Name of authorized bidder or name and role of telephonic bid assistant who submitted the bid, or "System" if the bidding system submitted a missing bid	String	Joe Smith Bob Smith (Telephonic Bid Assistant) acting on behalf of Joe Smith System
placed_time	The time the bid was submitted	String YYYY-MM-DD HH:MM:SS	2021-05-04 13:21:47 *All times are in Eastern Time*

2.5. My Bid Results

File name: my_bid_results_round_#.csv (# = round number)

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

The data pertaining to bidding results for a given round is available once the round results for that round have been posted.

File Structure:

- CSV file (first row contains header)
- One record for each product where the bidder had processed demand for the product in the previous round and/or submitted a bid for the product in the round
- The file contains data for a single round that has been posted

Field	Description	Data Type	Examples/*Notes*
auction_id	The FCC auction number for the auction	String	110 110-Mock
round	Round number	Integer	12
bidder	Bidder name	String	Company XYZ "ABC, Inc."
frn	The bidder's FCC Registration Number (FRN) which uniquely identifies the bidder	String [0-9]{10}	0003645844
market	The PEA (Partial Economic Area) ID	String (["PEA"][0-9][0-9][0-9]){6}	PEA001

Field	Description	Data Type	Examples/*Notes*
market_name	The PEA name	String	"New York, NY"
category	The license category	String [Cat1|Cat2] {4}	Cat1 Cat2
processed_demand	The bidder's demand for the product after processing	Integer	2
fully_processed_flag	A flag that indicates whether all bids for the product were fully processed	String [Y|N] {1}	Y N *If a switch bid is not fully processed, both the "from" and "to" categories will have an "N"*
processed_demand_detail	Details about why one or more bids for the product were not accepted or not fully accepted during bid processing	String {500}	"Simple bid to increase demand to 4 @ $147,000,555: 2 blocks were not applied due to insufficient eligibility." "Simple bid to reduce demand to 0 @ $36,600,222: 3 blocks were not applied due to insufficient aggregate demand." *If more than one detail message is applicable (e.g., intra-round bids), then the messages are separated with semi-colons* *If a switch bid was partially (or not) processed, the message will be in the record for both the switch from and to categories* *Null if all bid(s) for the product were fully accepted*
bidding_units	Bidding units per block associated with the product	Integer	2300
supply	The supply of blocks associated with the product	Integer	7

Field	Description	Data Type	Examples/*Notes*
aggregate_demand	The aggregate demand for the product after processing	Integer	15
posted_price	Posted price for the product after processing	Integer	3000000

2.6. My Product Status

File name: my_product_status_round_#.csv (# = round number)

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 that the bidder selected in Form 175, 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 public Product Status file that will be available in the Public Reporting System at https://auctiondata.fcc.gov will include all products in the auction.

The data pertaining to aggregate demand and posted price for a given round is available once the round results for that round have been posted. Information pertaining to next round clock prices is available in the file once the next round has been announced.

File Structure:

- CSV file (first row contains header)
- One record for each product where the bidder is eligible to bid based on the PEAs it selected on its Form 175
- The file contains data for a given round that has been posted

Field	Description	Data Type	Examples/*Notes*
auction_id	The FCC auction number for the auction	String	110 110-Mock
round	Round number	Integer	12
market	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	The license category	String [Cat1|Cat2] {4}	Cat1 Cat2
small_market_indicator	A flag that indicates whether the market is subject to the small market bidding cap	String [Y|N] {1}	Y N

Field	Description	Data Type	Examples/*Notes*
notable	A flag that indicates whether the product is notable and bidders should investigate details	String [Y|N] {1}	Y N
population	Population of the PEA	Integer	25237061
bidding_units	Bidding units per block associated with the product	Integer	2300
supply	The supply of blocks associated with the product	Integer	5
start_of_round_price	The lowest price per block available for bidding on the product in the round	Integer	2000000 *In Round 1 this is the opening price, for all other rounds it is the posted price from the previous round*
clock_price	The clock price (highest price) per block for the product in the round	Integer	3000000 *The clock_price can be higher than the posted price for the round*
aggregate_demand	The aggregate demand for the product after processing	Integer	15 *Null prior to posting results for Round 1*
posted_price	The posted price for the product after processing	Integer	3000000 *Null prior to posting results for Round 1*
next_round_clock_price	The clock price (highest price) per block for the product in the next round	Integer	5000000 *Null if next round has not yet been announced* *Null if clock phase has concluded*

2.7. My Bidder Status

File name: my_bidder_status_round_#.csv (# = round number)

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, contingent bidding limit, 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, required activity, and contingent bidding limit for the next round. Financial information for a bidder's requested commitment, processed commitment, net requested commitment, and processed net commitment are also given.

File Structure:

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

Field	Description	Data Type	Examples/*Notes*
auction_id	The FCC auction number for the auction	String	110 110-Mock
round	Round number	Integer	12
bidder	Bidder name	String	Company XYZ "ABC, Inc."
frn	The bidder's FCC Registration Number (FRN) which uniquely identifies the bidder	String [0-9]{10}	0003645844
bidding_credit	The bidding credit percentage associated with the bidder *0 = no bidding credit* *15 = 15% bidding credit*	Integer [0|15|25]	0 15 25
bidding_credit_type	Indicates the type of bidding credit that the bidder is eligible to receive Rural = bidder is eligible for the rural service provider bidding credit Small Business = bidder is eligible for the small business bidding credit	String [Rural | Small Business]	Small Business Rural *Null if the bidder is not eligible for a bidding credit*
eligibility	The bidder's eligibility in bidding units at the start of round	Integer	8000000

Field	Description	Data Type	Examples/*Notes*
contingent_bidding_li mit	The bidder's maximum activity that it can submit for the round	Integer	10000000 *For Round 1, contingent_bidding_limit = eligibility*
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 *Updated during round*
requested_commitmen t	The bidder's requested commitment in dollars for the round	Integer	346000000 *Updated during round*
requested_commitmen t_discount	The bidder's requested discount in dollars for the round based on any bidding credits and applying any applicable bidding credit caps	Integer	10000000 *Updated during round* *Null if the bidder is not eligible for a bidding credit*
requested_net_commit ment	The bidder's requested net commitment in dollars for the round	Integer	336000000 *Updated during round* *Null if the bidder is not eligible for a bidding credit*
requested_commitmen t_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	16000000 *Updated during round* *Null if the bidder is not eligible for a bidding credit*
requested_commitmen t_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 *Updated during round* *Null if the bidder is not eligible for the small business bidding credit*
processed_activity	The bidder's bidding activity in bidding units after processing	Integer	4100000 *Null if the round results have not yet been posted*
commitment	The bidder's commitment in dollars for the round	Integer	348500000 *Null if the round results have not yet been posted*

Field	Description	Data Type	Examples/*Notes*
commitment_discount	The bidder's discount in dollars for the round based on any bidding credits and applying any applicable bidding credit caps	Integer	10000000 *Null if the bidder is not eligible for a bidding credit* *Null if the round results have not yet been posted*
net_commitment	The bidder's net commitment in dollars for the round	Integer	338500000 *Null if the bidder is not eligible for a bidding credit* *Null if the round results have not yet been posted*
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	15900000 *Null if the bidder is not eligible for a bidding credit* *Null if the round results have not yet been posted*
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 *Null if the bidder is not eligible for a small business bidding credit* *Null if the round results have not yet been posted*
next_round_eligibility	The bidder's eligibility in bidding units at the start of the next round	Integer	5125000 *Null if the next round has not yet been announced* *Null in final clock round*
next_round_contingen t_bidding_limit	The bidder's maximum activity that it can submit for the next round	Integer	5300000 *Null if the next round has not yet been announced* *Null in final clock round*
next_round_required_ activity	The bidder's required activity in bidding units for the next round	Integer	4100000 *Null if the next round has not yet been announced* *Null in final clock round*

2.8. My Audit Log

File name: my_audit_log.csv

The My Audit Log file records all overall bid submissions and all individual bid changes. This file contains records for all rounds. The My Audit Log file is available on the Downloads screen. It is also available from the Place Bids screen after a successful bid upload or quick action submission. The file updates after each submission of bids.

File Structure:

- CSV file (first row contains header)
- One record for each audit log entry that corresponds to bidding

Field	Description	Data Type	Examples/*Notes*
log_entry_time	Time of event	Date/Time	2021-05-04 13:21:47 *All times are in Eastern Time*
round	Round number	Integer	12
round_state	Round state	String	Open Closed Calculated
audit_category	Audit category/ activity	String	Bid Bid.Batch
audit_subcategory	Audit subcategory	String	*Examples when category = Bid* Bid.Add Bid.Modify.Add Bid.Missing.Add Bid.Delete Bid.Modify.Delete *Examples when category = Bid.Batch* Default.Submit Delete.Success Upload.Success Clear.Success
user	User performing action	String	Joe Smith Bob Smith (Telephonic Bid Assistant) acting on behalf of Joe Smith
bidder	Bidder name (if applicable)	String	0003645844 (Company XYZ) *FRN and (full name)*
product	The product identifier (constructed using market-category)	String	PEA001-Cat1 *Can be null*
details	Descriptive text	String	Simple Bid. Price: $13,000 (100.00000000%); Quantity 3

3. Bid Upload Process

In Round 1, a bidder can place bids by doing the following: download a sample template file such as My Markets Template, enter the requested quantities, opening prices and a bid type of simple for each product, and upload the file to the bidding system. Alternatively, a bidder can produce a properly formatted upload file using an external system, and upload that file to the auction software.

Starting with Round 2, a bidder may simply upload its Default Bids Template 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. Default bids can also be submitted using a Submit Default Bids "Quick Actions" button.

If a bidder does not want to submit default bids, it may download one of the other bid template files, modify it, and upload it to the bidding system. Or, it may upload a file produced by an external system, similar to Round 1.

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. Any bids that were successfully uploaded before the bad upload still exist.

The file specifications and criteria for rejection of a bid upload file are given below.

3.1. File Requirements – Round 1 Bids

- The upload file must be in CSV format. A particular file name is not required.
- The following fields are required, all others are ignored:
  - PEA number (column header "MARKET")
  - License category (column header "CATEGORY")
  - Quantity (column header "QUANTITY")
  - Price (column header "PRICE")
  - Type of bid (column header "BID_TYPE")
  - Switch "to" category (column header "SWITCH_TO_CATEGORY")
- A bid upload will be rejected in its entirety if any of the following occur:
  - Column headers for the required fields are missing or invalid
  - Column headers for the required fields must be in the order as "MARKET, CATEGORY, QUANTITY, PRICE, BID_TYPE, SWITCH_TO_CATEGORY"
  - The file contains blank lines between products
  - A bid was submitted for an invalid product (a PEA-license category combination)
  - A bid was submitted for an invalid bid type for a product; or in the case of a delete of a bid for a particular product, not equal to "Delete" (case insensitive)
  - A bid was submitted for a product that is not on the bidder's Form 175

- o A bid was submitted for a product with a quantity that is not a whole number greater than 0 and less than or equal to 4

- o In the case of a PEA with two categories, bids were submitted with a sum of the bid quantities across the two products in the PEA exceeding 4

- o A bid was submitted for a product with a price not equal to the Round 1 price

- o A bid was submitted with a bid type equal to "Delete" but no prior bid exists to delete

- o The sum of the bidding units for the quantities bid exceeds the bidder's initial eligibility

3.2. File Requirements – Round 2 and Later

- The upload file must be in CSV format. A particular file name is not required.

- The following fields are required, all others are ignored:
  - o PEA number (column header "MARKET")
  - o License category (column header "CATEGORY")
  - o Quantity (column header "QUANTITY")
  - o Price (column header "PRICE")
  - o Type of bid (column header "BID_TYPE")
  - o Switch "to" category (column header "SWITCH_TO_CATEGORY")

- With the exception of a "to" product of a switch bid, the upload file must contain a row for any product with a processed demand greater than zero. For a switch bid, 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 will be rejected in its entirety if any of the following occur:
  - o Column headers for the required fields are missing or invalid
  - o Column headers for the required fields must be in the order as "MARKET, CATEGORY, QUANTITY, PRICE, BID_TYPE, SWITCH_TO_CATEGORY"
  - o The file contains blank lines between products
  - o A bid was submitted for an invalid product (a PEA-license category combination)
  - o A bid was submitted for an invalid bid type for a product; or in the case of a delete of a bid for a particular product, not equal to "Delete" (case insensitive)
  - o A bid was submitted for a product that is not on the bidder's Form 175
  - o A bid was submitted for a market with a quantity that is not a whole number greater than or equal to 0 and less than or equal to 4
  - o In the case of a PEA with two categories, bids were submitted with a sum of the bid quantities across the two products in the PEA exceeding 4
  - o A bid was submitted for a product with a price that was not a whole number between the previous round's posted price and the current clock price
  - o A bid was submitted with a bid type equal to "Delete" but no prior bid exists to delete

- o A simple bid was submitted for a product with a quantity equal to the processed demand from the previous round but at a price other than the clock price of the current round
- o 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
- o A switch bid was submitted for a market where the resulting quantity would exceed the supply of the "to" product
- o A switch bid was submitted with an invalid or missing "to" category
- o A switch bid was submitted with an invalid "from" category
- o A bid was submitted for a product with the same quantity as was specified at a different price for that product
- o Multiple bids were submitted for a product such that when the bids were sorted in ascending order by price, the requested quantities were not all increasing or all decreasing
- o The bidding activity associated with the set of bids in the bid upload file exceeds the bidder's contingent bidding limit for the round
- o The upload file contained a row for a product that was also a "to" product of a switch bid

4. 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.

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

Decimal: The Decimal data type is used to specify a number that may optionally contain a fractional portion. The decimal numbers in the bidding system are made with 2 decimal places.
The following are examples of valid decimals:

- 123.45
- -0.15
- .67
- 0.30

The following are examples of invalid decimals:

- 123.4.5
- 5+6
- 1.4545E6
- 5,121.00

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. For example, {3} indicates the integer should be exactly 3 numbers long.

The following are examples of valid integers:

- 009
- 9
- 2147483647

The following are examples of invalid integers:

- -009
- +009

Null: Regardless of the data type, under certain conditions a field may be *null*, which means there is no data for that field (i.e., the field is blank).

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
- 103

Invalid values for example 1:

- 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 means 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.