

# Reliability Pricing Model / Avoidable Cost Rate (RPM/ACR)

User Guide for the RPM/ACR Module in MIRA

Monitoring Analytics, LLC

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# RPM/ACR User Guide

## 1 Introduction

The RPM/ACR system is one of several modules in the Monitoring Analytics Member Information Reporting Application (MIRA). Monitoring Analytics, LLC serves as the Market Monitoring Unit (MMU) for PJM Interconnection, L.L.C. and is also known as the Independent Market Monitor (IMM) for PJM.

The RPM/ACR system is an application hosted by Monitoring Analytics, LLC and is used for the submission of data to the MMU by Capacity Market Sellers (CMS) for purposes of calculating offer caps for RPM Auctions, per PJM Open Access Transmission Tariff (OATT) Attachment DD § 6.7(b). The RPM/ACR system is also used for the communication of PJM Market Net Revenues and offer caps and for the affirmation of offer caps.

The RPM/ACR system has two parts:

- **RPM/ACR**, which is used for the selection of offer cap types and for submission of data to the MMU by Capacity Market Sellers for purposes of calculating Market Seller Offer Caps (MSOCs) for RPM Auctions.
- **RPM Offer Cap Confirmation**, which supports the MMU communication of MSOC values and the selection and affirmation of RPM MSOC values by Capacity Market Sellers.

This RPM/ACR User Guide includes:

- 1) An overview of RPM/ACR;
- 2) Instructions on how to set up an account;
- 3) Guidance on the format and content of, and process for submitting the data for calculating MSOCs; and
- 4) Guidance on the format and content of, and process for affirming offer caps.

For technical details on the MIRA system, please see the MIRA User Guide document:

[http://www.monitoringanalytics.com/tools/docs/MIRA\\_User\\_Guide\\_2021.pdf](http://www.monitoringanalytics.com/tools/docs/MIRA_User_Guide_2021.pdf)

### 1.1 RPM/ACR Timelines

The RPM/ACR data submission deadlines for RPM Auctions are prescribed by the PJM Open Access Transmission Tariff (OATT or Tariff).<sup>1</sup> Data entry timelines for specific RPM Auctions are posted on the Tools page of the MMU website:

<http://www.monitoringanalytics.com/tools/tools.shtml>

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<sup>1</sup> PJM OATT Attachment DD §§ 6.4(b) & 6.7(b).






## 2 Reliability Pricing Model / Avoidable Cost Rate (RPM/ACR)

### 2.1 MIRA Account Setup and Access

All PJM Capacity Market Sellers should have their PJM Company Account Manager (CAM) log in to the MIRA system and designate users for the RPM/ACR module in MIRA.

For details on the CAM process, please see the MIRA CAM Quick Start Reference document: [http://www.monitoringanalytics.com/tools/docs/MIRA\\_CAM\\_Quick\\_Start\\_Reference\\_20160315.pdf](http://www.monitoringanalytics.com/tools/docs/MIRA_CAM_Quick_Start_Reference_20160315.pdf)

Specifically, to add access to the RPM/ACR module, CAMs should grant users the user type of RPM/ACR User.

Login Id	Last Name	First Name	Actions
demo			
demo.user@company.com	User	Demo	   
<b>User Details</b>			
Login Id: *	demo.user@company.com		
Last Name: *	User		
First Name: *	Demo		
Telephone Number:	12345		
Email Address: *	demo.user@company.com		
Password			
Confirm Password			
Last password change date:	02/04/2016 18:38:09		
<b>User Types</b>			
Company	User Types		Actions
Example Company	<input type="checkbox"/> Account Manager	<input type="checkbox"/> Company User	<input type="checkbox"/> Fuel Policy User
	<input type="checkbox"/> Power Plant Operations User (continuous)	<input type="checkbox"/> Power Plant Operations User (monthly)	<input checked="" type="checkbox"/> RPM/ACR User
			

### 2.2 RPM/ACR Functionality

The RPM/ACR module has the following functionality:

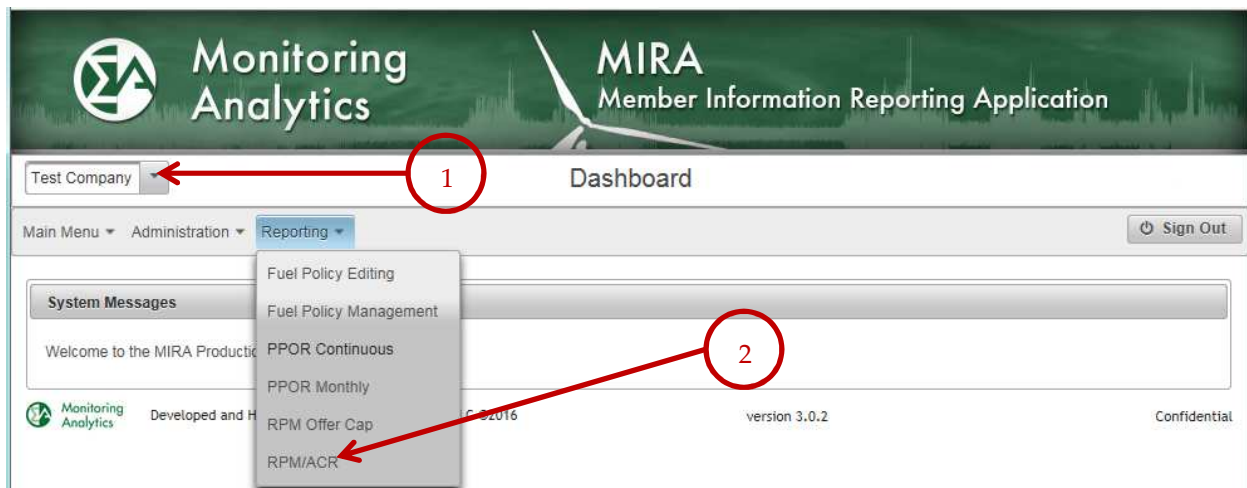
- 1) Offer Cap Type
  - a. Declaration of price taker status;
  - b. Selection of technology and delivery year specific default ACR as the basis for calculating a MSOC;
  - c. Selection of unit specific ACR as the basis for calculating a MSOC;
  - d. Selection of 1.1 Times BRA Clearing Price as the basis for calculating a MSOC;
  - e. Selection of opportunity cost as the basis for calculating a MSOC;
  - f. Submittal of data through the user interface or through file import to support the default ACR, and opportunity cost MSOC types.

- 2) Submittal of unit specific ACR data through a graphical user interface (GUI) or through upload of an ACR template spreadsheet.
- 3) Confirmation of MSOC values and the MW to which they will apply.

### 3 ACR Calculation Screen

The ACR Calculation screen is the main page for the RPM/ACR module. To submit data for the purpose of calculating MSOCs, the user should:

- 1) Select the company for which data are to be submitted or accessed;
- 2) Under Reporting in the Menu Bar, click on RPM/ACR to go to the ACR Calculation screen.
  - a. Note that if a user does not have RPM/ACR User access for the selected company, the RPM/ACR reporting link will not be available.



On the ACR Calculation screen, the user should select the applicable Delivery Year and auction:

Then, the screen will present all of the capacity resources owned by or contracted to the reporting company for the specified auction. For each capacity resource, there are two ACR screens or actions to choose: Offer Cap Type and Unit Specific ACR.

If a Capacity Market Seller has many resources, the user may type a string in the search box in any column header and press Enter to find a specific resource. Clear the search box and press Enter to return to displaying the complete list of resources.

The ACR Calculation screen shows the Access Type. There are two types of company resource access permissions available in RPM/ACR, All Access and Read Only. The permissions reflect the ability of the Capacity Market Seller to input data in the RPM/ACR screen for a specific resource. Both All Access and Read Only access types have the ability to confirm offer caps in the RPM Offer Cap Confirmation screen.

The ACR Calculation screen also shows the Selected Offer Cap Type, which is based on the selections made and saved by the user when entering ACR inputs in the Offer Cap Type screen. A Capacity Market Seller with Read Only access has some limited ability to submit data, as described in Section 6.4 “Read Only Access.”



Capacity Resource Name	Capacity Resource ID	Access Type	Selected Offer Cap Type	Actions
Demonstration Resource 3	DEMO3	All Access	Default ACR, Price Taker	Offer Cap Type Unit Specific ACR
Demonstration Resource 2	DEMO2	All Access	No Offer Cap Type Selected	Offer Cap Type Unit Specific ACR
Demonstration Resource 1	DEMO1	All Access	Default ACR, Net CONE times B, Opportunity Cost, Price Taker, Unit Specific ACR	Offer Cap Type Unit Specific ACR

After data entry has been completed for a resource, and the Offer Cap Type screen has been closed, verify that the Selected Offer Cap Type for the capacity resource is showing the correct calculation method. If it is not showing the expected offer cap type, open the record and confirm that the correct check box is checked, and save the record.

## 4 Offer Cap Type Screen

To notify the MMU of intent to have offer caps based on Price Taker status, Default ACR, Unit Specific ACR, 1.1 Times BRA Clearing Price, or Opportunity Cost, click on the Offer Cap Type button in the Actions column to open the ACR Type screen for a resource.

In the Offer Cap Type screen, the user is presented with five check boxes and five tabs, which represent the choices of Price Taker, Default ACR, Unit Specific ACR, 1.1 Times BRA Clearing Price, and Opportunity Cost.

Click on the tabs to enter inputs for that specific offer cap type. The user may select more than one offer cap type at this point in the process.

The screenshot shows the 'Offer Cap Type' form. At the top, there is a table with three columns: 'Capacity Resource Name', 'Capacity Resource ID', and 'Access Type'. The first row contains 'DEMO CR 1', '76767601', and 'All Access'. Below this table, there is a section titled 'Selected Offer Cap Type:' with five checkboxes: 'Price Taker', 'Default ACR' (checked), 'Unit Specific ACR', 'Net CONE times B', and 'Opportunity Cost'. Below the checkboxes, there are five tabs: 'Price Taker', 'Default ACR' (selected), 'Unit Specific ACR', 'Net CONE times B', and 'Opportunity Cost'. The 'Default ACR' tab is active, showing a form with the following fields: 'Technology Type' (Coal Fired), 'EFOrd' (0.09900), 'ICAP (MW)' (800.0), 'PJM Default ACR (\$/MW-day)' (\$175.04), 'Participant Enter Default ACR (\$/MW-day)' (\$175.04), 'MMU Net Revenue (\$/MW-year)' (\$7,777.00), 'Participant Enter Net Revenue (\$/MW-year)' (\$2,345.67), 'Bilateral Revenues (\$/MW-Yr)' (\$456.78), 'Bilateral Costs (\$/MW-Yr)' (\$345.67), 'Reactive Capability Revenues (\$/MW-Yr)' (\$12.34), and 'Reactive Capability Revenue Justification' (Type in reactive capability revenue justification here. 195 characters remaining.). At the bottom of the form, there are 'Save' and 'Cancel' buttons.

Prior to saving, the user must select one or more check boxes to indicate which choice(s) will be submitted to the MMU. The MMU will use the check box selections to determine which methods to use to calculate the MSOCs, even if data were submitted under a tab for which the check box was not selected.

At the bottom of the Offer Cap Type screen is a Save button and a Cancel button. Clicking either of these buttons closes the Offer Cap Type screen.

## 4.1 Declaration of Price Taker Status

If a Capacity Market Seller intends to offer a resource in an RPM Auction as a price taker and at \$0 per MW-day, the following steps should be taken:

- 1) Click on the Price Taker check box to indicate the selection of Price Taker as the offer cap type.
- 2) Click on the Price Taker tab.

- 3) On the Price Taker tab, read the confirmation language, and make sure that it is consistent with the Capacity Market Seller's intent for the selected auction.
- 4) On the Price Taker tab, check the check box to confirm that the Capacity Market Seller agrees to the application of an offer cap of \$0 per MW-day for the specified resource.
- 5) Click on Save to commit these inputs to the database.

The Price Taker selection can only be saved if the selection and confirmation check boxes are both selected. If the selection check box is deselected, the confirmation check box will also be deselected.

Clicking on the Discard Changes button closes the dialogue box and reverts all values to the last values that were saved to the database.

The screenshot shows the 'Offer Cap Type' dialog box. At the top, there is a table with three columns: 'Capacity Resource Name', 'Capacity Resource ID', and 'Access Type'. The first row contains 'Demonstration Resource 1', 'DEMO1', and 'All Access'. A red circle with the number '1' is around the 'Capacity Resource ID' cell. Below the table, there is a section titled 'Selected Offer Cap Types:' with five checkboxes: 'Price Taker' (checked), 'Default ACR', 'Unit Specific ACR', 'Net CONE times B', and 'Opportunity Cost'. Below this is a row of five tabs: 'Price Taker' (selected), 'Default ACR', 'Unit Specific ACR', 'Net CONE times B', and 'Opportunity Cost'. Below the tabs is a text area containing the confirmation statement: 'I confirm that the capacity market offer for this resource (Demonstration Resource 1) will be offered at \$0 per MW-day for the 20192020 Base Residual Auction.' Below the text area is a checkbox labeled 'Confirm \$0 per MW-day Sell Offer' which is checked. A red circle with the number '2' is around the text area, and a red circle with the number '3' is around the confirmation checkbox. At the bottom of the dialog box are two buttons: 'Save' and 'Cancel'. A red circle with the number '4' is around the 'Save' button. Red arrows point from the numbered circles to their respective elements: from '1' to the Capacity Resource ID, from '2' to the confirmation text area, from '3' to the confirmation checkbox, and from '4' to the Save button.

## 4.2 Acceptance of Default ACR

If a Capacity Market Seller intends to have an offer cap calculated based on the default ACR applicable for the technology type and Delivery Year, the following steps should be taken:

- 1) Click on the Default ACR check box to indicate the selection of Default ACR as the offer cap type.
- 2) Click on the Default ACR tab to enter default ACR inputs.
- 3) On the Default ACR tab, select the applicable Technology Type from the drop down list. Only when the Technology Type has been selected will the PJM Default ACR value be presented to the user.
- 4) Enter values for EFORD and ICAP.
- 5) Observe the presented values for PJM Default ACR and MMU Net Revenue.
- 6) Enter values for Participant Enter Default ACR and Participant Enter Net Revenue as appropriate.



- 7) If applicable, enter values for Bilateral Revenues, Bilateral Costs, Reactive Capability Revenues, and Reactive Capability Revenue Justification.
- 8) Click on Save to commit these inputs to the database.

The Default ACR inputs will be checked to ensure that a complete record has been entered. Incomplete inputs for Default ACR offer cap type cannot be saved to the database if the Default ACR check box is selected.

Clicking on the Cancel button closes the dialogue box and reverts all values to the last values that were saved to the database.

If the MMU Net Revenue field is blank, this indicates that the MMU has not yet populated the field. If a Capacity Market Seller believes that there should be an MMU Net Revenue value for the capacity resource, please contact the MMU at [rpmacr@monitoringanalytics.com](mailto:rpmacr@monitoringanalytics.com).

The screenshot shows the 'Offer Cap Type' form. Red circles and arrows highlight specific fields and controls:

- 1**: Points to the 'Default ACR' checkbox in the 'Selected Offer Cap Types' section.
- 2**: Points to the 'Unit Specific ACR' checkbox in the 'Selected Offer Cap Types' section.
- 3**: Points to the 'Net CONE times B' checkbox in the 'Selected Offer Cap Types' section.
- 4**: Points to the 'Technology Type' dropdown menu, which is currently set to 'Coal Fired'.
- 5**: Points to the 'PJM Default ACR (\$/MW-day)' field.
- 6**: Points to the 'MMU Net Revenue (\$/MW-year)' field.
- 7**: Points to the 'Save' button at the bottom of the form.

The form contains the following data:

Capacity Resource Name	Capacity Resource ID	Access Type
DEMO CR 1	76737684	All Access

Selected Offer Cap Types:

- ☐ Price Taker
- ☒ Default ACR
- ☐ Unit Specific ACR
- ☐ Net CONE times B
- ☐ Opportunity Cost

Offer Cap Type Tabs: Price Taker | **Default ACR** | Unit Specific ACR | Net CONE times B | Opportunity Cost

Technology Type	Coal Fired
EFORD	0.09900
ICAP (MW)	800.0
PJM Default ACR (\$/MW-day)	\$175.04
Participant Enter Default ACR (\$/MW-day)	\$175.04
MMU Net Revenue (\$/MW-year)	\$7,777.00
Participant Enter Net Revenue (\$/MW-year)	\$2,345.67
Bilateral Revenues (\$/MW-Yr)	\$456.78
Bilateral Costs (\$/MW-Yr)	\$345.67
Reactive Capability Revenues (\$/MW-Yr)	\$12.34
Reactive Capability Revenue Justification	Type in reactive capability revenue justification here. 195 characters remaining.

Buttons: Save | Cancel

### 4.3 Opportunity Cost Based Offer Cap

The RPM/ACR module Offer Cap Type screen allows Capacity Market Sellers to communicate the intent to use the resource's opportunity cost as the basis for calculating an offer cap and to communicate the amount of MW to which that MSOC would apply.

A Read Only company also has the ability to have offer caps calculated based on their own Opportunity Cost. Opportunity Cost data submitted by a Read Only company cannot be viewed by the All Access company or any other Read Only company.

- 1) Click on the Opportunity Cost check box to indicate the selection of Opportunity Cost as the offer cap type.
- 2) Click on the Opportunity Cost tab.
- 3) On the Opportunity Cost tab, enter the Opportunity Cost MW and \$/MW-Day.
- 4) Specify the Technology Type of the resource.
- 5) Explain the justification for the opportunity cost in the text field. Supporting documentation should be provided to the MMU outside of the MIRA system via email.
- 6) Click on Save to commit these inputs to the database.

The screenshot shows the 'Offer Cap Type' form. At the top, a table displays 'Capacity Resource Name' (EXAMPLE CAPACITY RESOURCE 1), 'Capacity Resource ID' (EXCO1), and 'Access Type' (All Access). Below this, a section titled 'Selected Offer Cap Types:' contains five checkboxes: 'Price Taker', 'Default ACR', 'Unit Specific ACR', 'Net CONE times B', and 'Opportunity Cost'. The 'Opportunity Cost' checkbox is checked and circled with a red '1'. Below the checkboxes is a tabbed interface with five tabs: 'Price Taker', 'Default ACR', 'Unit Specific ACR', 'Net CONE times B', and 'Opportunity Cost'. The 'Opportunity Cost' tab is selected and circled with a red '2'. The form fields are as follows: 'Technology Type' is a dropdown menu with '[Select One]' and a downward arrow, circled with a red '4'; 'Opportunity Cost (MW)' is a text input field containing '123.4', circled with a red '3'; 'Opportunity Cost (\$/MW-Day)' is a text input field containing '\$12.34', also circled with a red '3'; and 'Opportunity Cost Justification' is a large text area with the placeholder text 'Type in Opportunity Cost Justification here. Additional details should be communicated to the MMU.' and a character count '152 characters remaining.', circled with a red '5'. At the bottom left, there are two buttons: 'Save' and 'Cancel'. The 'Save' button is circled with a red '6'.

## 5 Import and Export of Offer Cap Type Data

In the ACR Calculation screen (the landing page for RPM/ACR), there are Import and Export buttons that can be used to bulk upload certain data elements from the Offer Cap type screen. These data items include:

- Price Taker (Yes/No);

- For calculating Default ACR: Technology Type, EFORD, ICAP, CMS Default ACR, CMS Net Revenue.

To generate the upload file template, click on the Export button, which will create a file containing rows for each Capacity Resource and columns for each of the data elements. The Export file will also include any data for these fields that are already saved in the database, as well as the PJM Default ACR (if the Technology Type has been selected) and the MMU Net Revenue values, if they have been populated.

After editing the exported template file, use the Import button to upload any additions or deletions. Cells left blank in the upload file will null out any existing data in the database.

The screenshot shows a web interface for managing capacity resources. At the top, there are two dropdown menus: 'Select a delivery year and auction:' (set to 2019/2020) and 'Base Residual Auction'. To the right of these are 'Import' and 'Export' buttons, both with red arrows pointing to them. Below the buttons is a table with the following columns: 'Capacity Resource Name', 'Capacity Resource ID', 'Access Type', 'Selected Offer Cap Type', and 'Actions'. The table contains three rows of demonstration resources. The 'Actions' column for each row has two buttons: 'Offer Cap Type' and 'Unit Specific ACR'. At the bottom of the table, there is a pagination bar showing '(1 of 1)' and navigation icons.

Capacity Resource Name	Capacity Resource ID	Access Type	Selected Offer Cap Type	Actions
Demonstration Resource 3	DEMO3	All Access	Default ACR, Price Taker	Offer Cap Type Unit Specific ACR
Demonstration Resource 2	DEMO2	All Access	No Offer Cap Type Selected	Offer Cap Type Unit Specific ACR
Demonstration Resource 1	DEMO1	All Access	Default ACR, Net CONE times B, Opportunity Cost, Price Taker, Unit Specific ACR	Offer Cap Type Unit Specific ACR

## 6 Unit Specific ACR

If a Capacity Market Seller intends to have an offer cap calculated based on a Unit Specific ACR, the following steps should be taken:

- 1) Click on the Unit Specific ACR check box to indicate the selection of Unit Specific ACR as the offer cap type.
- 2) Click on the Unit Specific ACR tab to observe Unit Specific ACR summary data.
  - a. Other than selecting the check box, there is no data entry required on this Unit Specific ACR tab in the ACR Type screen.
  - b. Unit Specific ACR data are entered as described below in Section 6.1 “Manually Entering Unit Specific ACR through the GUI” and in Section 6.2 “Uploading Unit Specific ACR Template.”
  - c. When Unit Specific ACR data have been submitted, the installed capacity (ICAP) and unforced capacity (UCAP) based ACR values will be presented on this Unit Specific ACR tab, and the Submission Status will read “Submitted”. If these ICAP and UCAP ACR fields are blank, the Unit Specific ACR data has not been completely submitted. If the MMU Net Revenue field is blank, this indicates that the MMU has not yet populated the field. If a Capacity Market Seller believes that there should be a MMU Net Revenue value for the capacity resource, please contact the MMU at [rpmacr@monitoringanalytics.com](mailto:rpmacr@monitoringanalytics.com).
- 3) Click on Save to commit this selection to the database.

**Offer Cap Type**

Capacity Resource Name	Capacity Resource ID	Access Type
DEMO CR 1	76767601	All Access

Selected Offer Cap Types:

☐ Price Taker
 ☐ Default ACR
 ☒ Unit Specific ACR
 ☐ Net CONE times B
 ☐ Opportunity Cost

Submission Status	Not Submitted
ACR ICAP Based	\$99.37
ACR UCAP Based	\$110.28
MMU Net Revenue (\$/MW-year)	\$7,777.00
Expected Bonus Performance Payments(+) / Non-Performance Charges(-) (\$/MW-Yr)	\$45.67
Bilateral Revenues (\$/MW-Yr)	\$456.78
Bilateral Costs (\$/MW-Yr)	\$345.67
Reactive Capability Revenues (\$/MW-Yr)	\$12.34
Reactive Capability Revenue Justification	Type in reactive capability revenue justification here.

Once the intent to use the Unit Specific ACR is indicated in the Offer Cap Type screen, the Unit Specific ACR data can be submitted to the MMU through the graphical user interface (GUI) or by uploading the ACR template. Data submitted using the ACR template can be reviewed and edited in the GUI after it has been uploaded.

## 6.1 Manually Entering Unit Specific ACR through the GUI

From the ACR Calculation screen, identify the capacity resource for which ACR data are to be submitted, and click the Unit Specific ACR button.

Select a delivery year and auction: 20242025 V13 Test

Capacity Resource Name	Capacity Resource ID	Access Type	Selected Offer Cap Type	Actions
Demonstration Resource 3	DEMO3	All Access	No Offer Cap Type Selected	<input type="button" value="Offer Cap Type"/> <input type="button" value="Unit Specific ACR"/>
Demonstration Resource 2	DEMO2	All Access	No Offer Cap Type Selected	<input type="button" value="Offer Cap Type"/> <input type="button" value="Unit Specific ACR"/>
Demonstration Resource 1	DEMO1	All Access	Net CONE times B, Opportunity Cost, Price Taker, Unit Specific ACR	<input type="button" value="Offer Cap Type"/> <input type="button" value="Unit Specific ACR"/>

This will open the Unit Specific ACR Calculation screen for the specified capacity resource.

There are ten tabs for Unit Specific ACR data entry. At the bottom of each tab is a Save button. The data on each tab must be saved prior to moving to another tab. The tabs contain the following data categories:

- **Summary:** Presents a summary of calculated ACR components and requires inputs for the Adjustment Factor calculation;
- **Section 1 & 2:** Power Plant Technology information, General Unit Data, and Non-Avoidable Cost data;
- **Section 3:** Plant specifications;
- **Section 4 & 5:** Avoidable Operations and Maintenance Labor (AOML) and Avoidable Administrative Expenses (AAE);
- **Section 6 & 7 & 8:** Avoidable Maintenance Expense (AME), Avoidable Variable Expenses (AVE), and Avoidable Taxes Fees and Insurance (ATFI);
- **Section 9:** Avoidable Carrying Charges (ACC);
- **Section 10:** Avoidable Corporate Level Expenses (ACLE);
- **Section 11:** Avoidable Fuel Availability Expenses (AFAE);
- **Section 12:** Avoidable Project Investment Recovery Rate (APIR); and
- **Section 13:** Capacity Performance Quantifiable Risk (CPQR).

The requirements for each of these data categories are defined in the ACR Template Instructions document published on the Monitoring Analytics website:

<http://www.monitoringanalytics.com/tools/docs/RPM-ACR Template Version 14.3 Instructions 20210913.pdf>

The calculated fields in each tab of the user interface only calculate after the user clicks on Save. When all appropriate data are saved for all of the tabs, the user should click on the Submit button. The Submit button is only activated when there are no unsaved data in any of the tabs.

When the Submit button is clicked, all data validation rules are checked. Any validation errors are presented at the top of the Unit Specific ACR Calculation screen. ACR data cannot be submitted while data validation errors remain. ACR data that is successfully submitted results in the ACR values being displayed in the Summary tab of the Unit Specific ACR screen and the Unit Specific ACR tab of the Offer Cap Type screen. The calculated ACR is presented in terms of installed capacity (ICAP) and unforced capacity (UCAP).

Return Import Export Submit

Resource ID: DEMO1234 Resource Name: Demonstration Capacity Resource 1  
Delivery Year: 20182019 Auction Name: Base Residual Auction

Summary Section 1&2 Section 3 Section 4&5 Section 6&7&8 Section 9 Section 10 Section 11 Section 12 Section 13

Resource/Auction Detail	
Resource ID	DEMO1234
Resource Name	Demonstration Capacity Resource 1
Delivery Year	20182019
Auction Name	Base Residual Auction

Summary	
Escalation Factor	<input type="text"/>
Number of Years between Actual Data and Delivery Year	<input type="text"/>
Adjustment Factor	<input type="text"/>
ACR ICAP Based	<input type="text"/>
ACR UCAP Based	<input type="text"/>

Fixed Operating Expenses	Avoidable (\$/MW-Yr)	Avoidable (\$/MW-Day)
Operations and Maintenance Labor (AOML)	<input type="text"/>	<input type="text"/>
Administrative Expenses (AAE)	<input type="text"/>	<input type="text"/>
Maintenance Expenses (AME)	<input type="text"/>	<input type="text"/>
Variable Expenses (AVE)	<input type="text"/>	<input type="text"/>
Taxes Fees and Insurance (ATFI)	<input type="text"/>	<input type="text"/>
Carrying Charges (ACC)	<input type="text"/>	<input type="text"/>
Corporate Level Expenses (ACLE)	<input type="text"/>	<input type="text"/>
Fuel Availability Expenses (AFAE)	<input type="text"/>	<input type="text"/>
Project Investment Recovery Rate (APIR)	<input type="text"/>	<input type="text"/>
Capacity Performance Quantifiable Risk (CPQR)	<input type="text"/>	<input type="text"/>
<b>Total</b>	<input type="text"/>	<input type="text"/>

Save Summary Data

## 6.2 Uploading Unit Specific ACR Template

The ACR template is available on the MMU website, Tools page: <http://www.monitoringanalytics.com/tools/tools.shtml>

However, it is advised to use the Export button on the Unit Specific ACR Calculation screen to create a version of the ACR template that is consistent with the template version expected by the system and is prepopulated with the capacity resource name, ID, and the selected Delivery Year and Auction Name. This exported file can be used as the input template for importing ACR data.

Return

Import

Export

Submit

Resource ID: DEMO1234

Resource Name: Demonstration Capacity Resource 1

Delivery Year: 20182019

Auction Name: Base Residual Auction

Summary

Section 1&2

Section 3

Section 4&5

Section 6&7&8

Section 9

Section 10

Section 11

Section 12

Section 13

Resource/Auction Detail

Resource ID	DEMO1234
Resource Name	Demonstration Capacity Resource 1
Delivery Year	20182019
Auction Name	Base Residual Auction

Summary

Escalation Factor	
Number of Years between Actual Data and Delivery Year	
Adjustment Factor	
ACR ICAP Based	
ACR UCAP Based	

Fixed Operating Expenses	Avoidable (\$/MW-Yr)	Avoidable (\$/MW-Day)
Operations and Maintenance Labor (AOML)		
Administrative Expenses (AAE)		
Maintenance Expenses (AME)		
Variable Expenses (AVE)		
Taxes Fees and Insurance (ATFI)		
Carrying Charges (ACC)		
Corporate Level Expenses (ACLE)		
Fuel Availability Expenses (AFAE)		
Project Investment Recovery Rate (APIR)		
Capacity Performance Quantifiable Risk (CPQR)		
Total		

Save Summary Data

When the ACR template has been completed, and an ACR value is calculated in the template spreadsheet, click on the Import button. Then in the Select File for Import dialogue box, click on +Choose to navigate to the completed ACR template file.

Select File for Import

+ Choose

Uploading an ACR template saves and submits the data. An ACR template that fails any validation step will fail the upload, meaning the data will not be saved or submitted.



## 6.3 Interaction between the Unit Specific ACR Calculation Screen and the Offer Cap Type Screen

To ensure consistency in the ACR inputs provided for a capacity resource, all fields in the Unit Specific ACR screen are linked to the corresponding fields in the Offer Cap Type screen. Updates made in one screen will also appear in the other. The selection of the Default ACR check box in the Offer Cap Type screen will set the “Use Default ACR?” dropdown in the Unit Specific ACR screen to “Yes”.

### 6.3.1 Non-Avoidable Cost Data: Opportunity Cost, Bilateral Costs and Revenues, and Exports

Capacity Market Sellers can also submit bilateral costs and revenue data, expected bonus performance payments, reactive capability revenue data, and submit data to support offer caps based on opportunity costs by including these data in the Unit Specific ACR Calculation screen, Section 2B, Non-Avoidable Cost Data.

Capacity Market Sellers should provide required documentation to the MMU by email ([rpmacr@monitoringanalytics.com](mailto:rpmacr@monitoringanalytics.com)) to support the data submission.

Capacity Market Sellers who intend to have default or unit specific ACR based offer caps calculated for a resource must submit a reactive capability revenue value in \$ per MW-year, regardless of whether the unit was part of a fleet rate or received unit specific revenue. The value should be equal to the average reactive capability revenue received in the three most recent calendar years prior to the year in which the BRA for the relevant delivery is conducted if reactive revenue was received in each year. If reactive capability revenue was received for less than three years, the submitted value should be the average annualized value using the data available. Capacity Market Sellers should enter the relevant reactive filing docket number(s) in the Reactive Capability Revenue Justification field.

## 6.4 Read Only Access

In RPM/ACR, only one company has All Access permission to edit ACR data for a capacity resource. Other companies may have Read Only access to a capacity resource in RPM/ACR. Read Only access allows the user to view some of the data saved by the All Access company, and to submit limited data to records specific to the Read Only company.

Capacity Resource Name ▾	Capacity Resource ID ▾	Access Type ▾	Selected Offer Cap Type ▾	Actions	
Demonstration Capacity Resource 1	DEMO1234	All Access	Unit Specific ACR	ACR Type	Unit Specific ACR
Demonstration Capacity Resource 2	DEMO2234	All Access	Unit Specific ACR	ACR Type	Unit Specific ACR
Demonstration Capacity Resource 3	DEMO3234	Read Only	No Offer Cap Type Selected	ACR Type	Unit Specific ACR



Companies with Read Only access to a resource will have a different view and different access permissions. In the screen shot above, the reporting company has Read Only access to the last resource on the screen, indicated by Read Only in the Access Type column.

For Read Only access, the Selected Offer Cap Type column in the ACR Calculation screen will show the offer cap type(s) selected by the All Access company. In the above example, the All Access company has not yet selected an offer cap type in the ACR Type screen.

In the Offer Cap Type screen, the Read Only company will see the check boxes selected by the All Access company and the data input by the All Access company, with some exceptions.

For the Read Only company, the tab contents will appear as shown in the following three sections.

### 6.4.1 Read Only View of Price Taker Selection

Note that the Price Taker selection check box was selected by the All Access company and that the confirmation check box was selected by the All Access company, but neither are active for the Read Only company.

The screenshot shows the 'Offer Cap Type' window. At the top, a table lists the resource: 'Demonstration Resource 2' with ID 'DEMO2' and 'Access Type' 'Read Only'. Below this, the 'Selected Offer Cap Types' section shows five options: 'Price Taker' (checked), 'Default ACR' (checked), 'Unit Specific ACR' (unchecked), 'Net CONE times B' (checked), and 'Opportunity Cost' (unchecked). A row of buttons below mirrors these options, with 'Price Taker' and 'Net CONE times B' highlighted. A confirmation message states: 'I confirm that the capacity market offer for this resource (Demonstration Resource 2) will be offered at \$0 per MW-day for the 20192020 Base Residual Auction.' Below this, a 'Confirm \$0 per MW-day Sell Offer' checkbox is checked. At the bottom are 'Save' and 'Cancel' buttons.

### 6.4.2 Read Only View of Default ACR Selection

In the below instance, the All Access company selected to use the Default ACR in the Offer Cap Type screen. The Read Only company can see the Technology Type, EFORd, ICAP, and the Default ACR submitted by the All Access company, as well as the PJM Default ACR. The Read Only company cannot see the All Access company's MMU Net Revenue or the Participant Enter Net Revenue fields. The Read Only company will see a value of MMU Net Revenue if one has been supplied by the MMU, and the Read Only company has write access to enter their own Net Revenue value, which won't be visible to the All Access company or any other Read Only companies. Bilateral Revenues and Bilateral Costs fields are also specific to the company and can be saved independently by the All Access or Read Only company.

Offer Cap Type

Capacity Resource Name	Capacity Resource ID	Access Type
DEMO CR 1	76767601	Read Only

Selected Offer Cap Types:
☐ Price Taker
☒ Default ACR
☐ Unit Specific ACR
☐ Net CONE times B
☐ Opportunity Cost

Price Taker

Default ACR

Unit Specific ACR

Net CONE times B

Opportunity Cost

Technology Type	Coal Fired
EFORd	0.09900
ICAP (MW)	800.0
PJM Default ACR (\$/MW-day)	\$175.04
Participant Enter Default ACR (\$/MW-day)	\$175.04
MMU Net Revenue (\$/MW-year)	\$98,765.43
Participant Enter Net Revenue (\$/MW-year)	\$98,765.43
Bilateral Revenues (\$/MW-Yr)	
Bilateral Costs (\$/MW-Yr)	
Reactive Capability Revenues (\$/MW-Yr)	
Reactive Capability Revenue Justification	250 characters remaining.

Save

Cancel

### 6.4.3 Read Only View of Unit Specific ACR Selection in Offer Cap Type Screen

In the below example, the All Access company chose to enter a Unit Specific ACR. If the All Access company selected the Unit Specific ACR check box, the Read Only company sees that the check box was checked. The Read Only company also sees the Submitted status of the unit specific ACR data, and the resulting ICAP and UCAP based calculated ACR values based on data submitted by the All Access company.

Although the ACR inputs provided by the All Access company are used to determine the offer cap options for the Read Only company, the Read Only company also has the ability to have offer caps calculated based on their own Net Revenue, Opportunity Cost or Bilateral Revenues and Costs, Expected Bonus Performance Payments and Reactive Capability Revenue data by entering values in the Unit Specific ACR screen or uploading a unit specific ACR template spreadsheet. See Section 6.3.1 and Section 6.4.4 for details.

Net Revenue, Opportunity Cost or Bilateral Revenues and Costs, Expected Bonus Performance Payments and Reactive Capability Revenue data submitted by a Read Only company cannot be viewed by the All Access company or any other Read Only company.

Offer Cap Type

Capacity Resource Name	Capacity Resource ID	Access Type
DEMO CR 1	76767601	Read Only

Selected Offer Cap Types:
☐ Price Taker
☐ Default ACR
☒ Unit Specific ACR
☐ Net CONE times B
☐ Opportunity Cost

Price Taker
Default ACR
Unit Specific ACR
Net CONE times B
Opportunity Cost

Submission Status	Not Submitted
ACR ICAP Based	\$99.37
ACR UCAP Based	\$110.28
MMU Net Revenue (\$/MW-year)	\$7,777.00
Expected Bonus Performance Payments(+) / Non-Performance Charges(-) (\$/MW-Yr)	\$45.67
Bilateral Revenues (\$/MW-Yr)	\$456.78
Bilateral Costs (\$/MW-Yr)	\$345.67
Reactive Capability Revenues (\$/MW-Yr)	\$12.34
Reactive Capability Revenue Justification	Type in reactive capability revenue justification here.

Save
Cancel

#### 6.4.4 Read Only View of Unit Specific ACR screen

In the below example, the All Access company chose to enter a Unit Specific ACR. The Read Only company sees all of the All Access Company's ACR inputs, with the exception of Section 2B, the Non-Avoidable Cost Data. Section 2B data can be submitted independently by the Read Only company. No company can see another company's Section 2B data.

This is the view of the Sections 1 & 2 tab for the All Access Company:

Section 1 - Power Plant Technology	
Power Plant Technology	Coal Fired
Use Default ACR (Yes/No)	No
Default ACR (\$/MW-Day)	
Section 2 - General Unit Data	
Commercial Operation Year	1964
Age of Plant	55
Net Plant Heat Rate (BTU/kWh) (HHV)	12,345
ICAP (MW)	123.0
EFORD	0.00100
Section 2B - Non Avoidable Cost Data	
Opportunity Cost (MW)	22.0
Opportunity Cost (\$/MW-Day)	\$234.00
Opportunity Cost Justification	<div>Opp Cost Justification Typed Here</div> <div>217 characters remaining.</div>
Net Revenues (\$/MW-Yr)	\$3,456.00
Expected Bonus Performance Payments(+)/Non-Performance Charges(-) (\$/MW-Yr)	\$2,345.00
Bilateral Revenues (\$/MW-Yr)	\$123.00
Bilateral Costs (\$/MW-Yr)	\$123.00
Reactive Capability Revenues (\$/MW-Yr)	\$123.00
Reactive Capability Revenue Justification	<div>Reactive Capability Revenue justification typed here.</div> <div>197 characters remaining.</div>

The Section 2B data fields are editable by the Read Only company, and the Section 2B values populated by the All Access company are not displayed. This is the view of the Section 1 & 2 tab for the same resource, for the Read Only company. Section 1 & 2 data from the All Access company is visible, but not editable. Section 2B data from the All Access company is not visible, but these fields are editable for the Read Only company to save their own inputs:

Section 1 - Power Plant Technology	
Power Plant Technology	Coal Fired
Use Default ACR (Yes/No)	No
Default ACR (\$/MW-Day)	

Section 2 - General Unit Data	
Commercial Operation Year	1984
Age of Plant	55
Net Plant Heat Rate (BTU/kWh) (HHV)	12,345
ICAP (MW)	123.0
EFORd	0.00100

Section 2B - Non Avoidable Cost Data	
Opportunity Cost (MW)	
Opportunity Cost (\$/MW-Day)	
Opportunity Cost Justification	250 characters remaining.
Net Revenues (\$/MW-Yr)	
Expected Bonus Performance Payments(+)/Non-Performance Charges(-) (\$/MW-Yr)	
Bilateral Revenues (\$/MW-Yr)	
Bilateral Costs (\$/MW-Yr)	
Reactive Capability Revenues (\$/MW-Yr)	
Reactive Capability Revenue Justification	250 characters remaining.

## 7 RPM Offer Cap Confirmation

The RPM Offer Cap Confirmation function in the RPM/ACR system is used for the communication of MSOC determinations by the MMU and notifications by Capacity Market Sellers on whether they agree with the MMU's MSOC determinations.

No later than 90 days prior to the RPM Auction, the MMU posts the MMU offer cap determinations to the RPM Offer Cap Confirmation screen in the RPM/ACR system. No later than 80 days prior to the RPM Auction, Capacity Market Seller must log into the RPM/ACR system, review the offer cap value(s) (which may be modified based on discussion with the MMU), and confirm that it agrees with the posted values or indicate the lowest value to which it commits. If the Capacity Market Seller indicates a level higher than the posted level, the MMU will evaluate whether it must bring the matter to the attention of the Federal Energy Regulatory Commission, including the option to file a Complaint.

### 7.1 Accessing the RPM Offer Cap Confirmation Screen

To access the RPM Offer Cap Confirmation function, a MIRA user must have RPM/ACR User permissions for the selected company. If the user has such permissions, the RPM Offer Cap Confirmation link will be visible under Reporting on the menu bar. A PJM Company Account Manager (CAM) has the ability to grant users this access type (See Section 2.1). To access the RPM Offer Cap Confirmation function, do the following:

- 1) Select the Capacity Market Seller company.
- 2) Under Reporting in the Menu Bar, click on the RPM Offer Cap Confirmation link.
- 3) Select the Delivery Year (covered by drop down menu in screen shot below).
- 4) Select the auction name.

The screenshot shows the MIRA Member Information Reporting Application interface. At the top, there's a header with the Monitoring Analytics logo and the text 'MIRA Member Information Reporting Application'. Below this is a navigation bar with 'Main Menu', 'Administration', and 'Reporting' tabs. A dropdown menu is open under 'Reporting', showing options like 'Fuel Policy Editing', 'Fuel Policy Management', 'PPOR Continuous', 'PPOR Monthly', 'RPM Offer Cap', and 'RPM/ACR'. The 'RPM Offer Cap' option is highlighted. In the main content area, there's a 'Test Company' dropdown menu (labeled 1). To the right, there's a 'Select a delivery year and auction:' section with a 'Base Residual Auction' dropdown (labeled 3) and 'Import' and 'Export' buttons (labeled 4). Below this is a table with columns: 'Capacity Resource Name', 'Capacity Resource ID', 'Access Type', 'Status', and 'Actions'. The table lists three resources: 'TEST RESOURCE 3', 'TEST RESOURCE 2', and 'TEST RESOURCE 1'. A red circle labeled 2 points to the 'RPM Offer Cap' menu item.

After selecting the auction name, a list of capacity resources that the company owns or has capacity rights for the specified auction will be displayed in the Offer Cap Confirmation screen.

## 7.2 The Offer Cap Confirmation Period

The offer cap confirmation period is 10 days, starting 90 days prior to the RPM Auction until 80 days prior to the RPM Auction.

Outside of the offer cap confirmation period, no offer cap data may be edited by the Capacity Market Seller. A locked Offer Cap Confirmation screen can be observed when all Edit Offer Cap buttons are grayed out, and the Import button is grayed out.

## 7.3 Details of Offer Cap Confirmation Screen

The RPM Offer Cap Confirmation screen shows the following details:

**Capacity Resource Name and Capacity Resource ID:** These columns can be sorted by using the up and down arrow next to the column header, or they can be searched by typing in the blank fields immediately below the column header.

**Access Type:** There are two types of company resource access permissions available in RPM/ACR, All Access and Read Only. The permissions reflect the ability of the Capacity Market Seller to input data in the RPM/ACR screen for a specific resource. Both All Access and Read Only access types have the ability to confirm offer caps in the RPM Offer Cap Confirmation screen.

**Status:** The Status column reflects the state of the offer cap data for that capacity resource. This status can be used to keep track of which resources have yet to have their offer caps confirmed by the Capacity Market Seller. The status/workflow steps are as follows:

- **No MMU Data Saved:** If the MMU has not loaded offer cap data for a capacity resource, the status will read “No MMU Data Saved.” If the MMU has not loaded data for a capacity resource, there are no offer cap values available to be confirmed. Therefore, the Edit Offer Cap button under the Actions column is disabled, and no Capacity Market Seller offer cap data can be entered or saved.
- **No CMS Data Submitted:** If the MMU has loaded offer cap data for a capacity resource, but the Capacity Market Seller has yet to enter any data, the status will read “No CMS Data Submitted.”
- **CMS Data Submitted:** If the Capacity Market Seller has successfully saved Offer Cap data for a capacity resource, the status will read “CMS Data Submitted.” As long as the Offer Cap confirmation period is open, Capacity Market Sellers can update their offer cap selections.

**Actions:** Each capacity resource has a single action button (Edit Offer Cap), which is available during the Offer Cap confirmation period if MMU offer cap data have been loaded. When the Capacity Market Seller clicks on the Edit Offer Cap button for a resource, a dialogue box will appear for that resource, which provides an opportunity to view the MMU offer cap values and to submit Capacity Market Seller offer cap values.

## ***7.4 Confirming Offer Caps through the User Interface***

The Edit Offer Cap screen contains four columns for each offer cap type. The first two columns are populated by the MMU and present the MMU MW and \$/MW-Day values. The last two columns are for Capacity Market Sellers to enter their selection of MW and the \$/MW-Day values for the selected resource.

To select a single offer cap value to be applied to all offered MW for a resource, enter the offer cap value in the CMS \$/MW-Day field in the corresponding offer cap type row, and the CMS MW field may be left blank. It is only necessary to enter a value in the CMS MW field when different offer cap types are to be applied by segment.

The number of rows in the Edit Offer Cap screen will depend on the number of offer cap types that are available to the Capacity Market Seller. The number of offer cap types depends on the data that have been provided to the MMU as well as the rules pertaining to the auction. For example, in the Edit Offer Cap screen below, there are two offer cap types: one based on ACR



data and one based on Opportunity Cost data provided to the MMU by the Capacity Market Seller.

To complete the offer caps confirmation, the following steps should be taken:

- 1) Observe the MMU MW and MMU \$/MW-Day values.
- 2) Enter CMS selection of MW and \$/MW-Day values in the Capacity Market Seller (CMS) columns.
- 3) Notice the MW Limit field. The sum of all CMS MW may not exceed the MW Limit specified.
- 4) Once CMS data have been entered, click the Save button to commit the entered CMS data to the database.

The screenshot shows a 'Confirm Offer Caps' dialog box. It contains two tables. The first table has columns 'Capacity Resource Name', 'Capacity Resource ID', and 'MW Limit'. The second table has columns 'Offer Cap Type', 'MMU MW', 'MMU \$/MW-Day', 'CMS MW', and 'CMS \$/MW-Day'. Red circles with numbers 1 through 4 are placed over specific elements: 1 is over the 'MMU MW' column header, 2 is over the 'CMS MW' column header, 3 is over the 'MW Limit' value '999.0', and 4 is over the 'Offer Cap Type' column header. Arrows point from these circles to their respective data fields in the 'Opportunity Cost Offer Cap' row. At the bottom are 'Save' and 'Cancel' buttons.

Capacity Resource Name	Capacity Resource ID	MW Limit
Demonstration Resource 1	DEMO1	999.0

Offer Cap Type	MMU MW	MMU \$/MW-Day	CMS MW	CMS \$/MW-Day
ACR Based Offer Cap	999.0	\$250.00		
Opportunity Cost Offer Cap	888.0	\$249.00	888.0	\$249.00

Save Cancel

In the next example, there are 10 rows of offer cap types available to the Capacity Market Seller, consisting of a variety of offer cap types.

For details on the offer cap types, see Section 7.8 Offer Cap Categories and Definitions.



Confirm Offer Caps				
Capacity Resource Name	Capacity Resource ID	MW Limit		
DEMO CAPACITY RESOURCE 2	99999992	999.0		
Offer Cap Type	MMU MW	MMU \$/MW-Day	CMS MW	CMS \$/MW-Day
ACR Based Offer Cap	999.0	\$250.00	<input type="text" value="999.0"/>	<input type="text" value="\$250.00"/>
Price Taker	2.0	\$0.00	<input type="text"/>	<input type="text"/>
Opportunity Cost Offer Cap	888.0	\$249.00	<input type="text"/>	<input type="text"/>
Alternative Offer Cap	777.0	\$248.00	<input type="text"/>	<input type="text"/>
1.1 Times BRA Clearing Price	666.0	\$247.00	<input type="text"/>	<input type="text"/>
Net CONE Based Offer Cap	555.0	\$246.00	<input type="text"/>	<input type="text"/>
Segment 1	444.0	\$245.00	<input type="text"/>	<input type="text"/>
Segment 2	333.0	\$244.00	<input type="text"/>	<input type="text"/>
Segment 3	222.0	\$243.00	<input type="text"/>	<input type="text"/>
Segment 4	111.0	\$242.00	<input type="text"/>	<input type="text"/>

## 7.5 Exporting MMU Offer Cap Values and CMS Offer Cap Selections

Capacity Market Sellers may use the Export function on the RPM Offer Cap Confirmation screen to generate a spreadsheet that contains a row for each of the CMS capacity resources, and four columns (MMU MW, MMU \$/MW-Day, CMS MW, and CMS \$/MW-Day) for each offer cap type. With 15 offer cap types, as well as headers, this results in over 60 columns in the export spreadsheet.

The MMU columns are shaded gray, and the CMS columns are unshaded to help differentiate. The following is a picture of the export spreadsheet example including the MMU and CMS columns for the first offer cap type.

Delivery Year	Auction Name	Company ID	Resource ID	Resource Name	MMU ACR Based Offer Cap (MW)	MMU ACR Based Offer Cap (\$/MW-Day)	CMS ACR Based Offer Cap (MW)	CMS ACR Based Offer Cap (\$/MW-Day)
2018/2019	Base Residual Auction	DEMOCO1	DEMO1234	Demonstration Capacity Resource 1	123.4	99.99		
2018/2019	Base Residual Auction	DEMOCO1	DEMO2234	Demonstration Capacity Resource 2	99.9	55.55		
2018/2019	Base Residual Auction	DEMOCO1	DEMO3234	Demonstration Capacity Resource 3	0.5	111.11		

The MMU columns in the export file will be populated with any MMU offer cap MW or \$/MW-Day data that the MMU has loaded.

Capacity Market Sellers can save this Export file, add their offer cap MW and \$/MW-Day selections to the CMS columns, and then import the resulting file using the Import function described next.

Test Company

Offer Cap Confirmation

Main Menu Administration Reporting Sign Out

Select a delivery year and auction: 20182019 Base Residual Auction Import Export

Capacity Resource Name	Capacity Resource ID	Access Type	Status	Actions
TEST RESOURCE 3	TR3	All Access	No CMS Data Submitted	
TEST RESOURCE 2	TR2	All Access	No CMS Data Submitted	
TEST RESOURCE 1	TR1	All Access	No CMS Data Submitted	

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## 7.6 Importing CMS Offer Cap Selections

To import CMS offer cap data, it is recommended to first use the Export function to observe the MMU values, and to create the correct column headers, row headers, and tab name in the spreadsheet. When the spreadsheet has been exported, the MMU values reviewed, and CMS values edited, click on the Import button shown in the screen shot above. This will present the user with a navigation pane to identify the import file in the user's file system.

The import process will read the CMS values out of the spreadsheet for each of the CMS columns. The import process ignores data in the MMU columns, so any edits made to MMU data will not be imported. The data in the CMS columns will be validated in accordance with the validation rules described in Section 7.7 Import and User Interface Data Input Validations.

If any data in the import file fail a validation check, the entire import fails, and no CMS data will be uploaded. CMS data will only successfully upload if all data passes the validation rules. Import files that pass the validation checks and are successfully imported are committed to the database without any additional save operation required.

Importing data where data already exists will overwrite the CMS data. Blank CMS cells in the import file will null out their corresponding cells in the system data, even if they had previously been populated by the CMS.

After importing the offer cap data, it is recommended that the user open the Edit Offer Cap screen for each capacity resource to visually inspect and confirm the selected offer caps.

## 7.7 Import and User Interface Data Input Validations

The following are the data rules that apply to importing and to manually saving CMS offer cap data. Violation of these validation rules will result in a system error, and the values will not be imported or saved.

- For a resource, the sum of all CMS MW cannot exceed the MW Limit.
- CMS MW value cannot be entered for an offer cap type in which the corresponding MMU MW value is null.
- CMS \$/MW-Day value cannot be entered for an offer cap type in which the corresponding MMU \$/MW-Day value is null.
- CMS MW value for an offer cap type cannot exceed the corresponding MMU MW value.

## 7.8 Offer Cap Categories and Definitions

**Offer cap types.** Offer cap types include the following (per PJM Open Access Transmission Tariff (OATT) Attachment DD § 6.4):

- **ACR based.** An ACR based offer cap which is calculated as the ACR less net revenues, where the ACR is either the default or calculated unit specific. The currently defined default ACR values and the ACR template to calculate a unit specific ACR are posted on the Monitoring Analytics website's Tools page. Effective with the 2020/2021 and subsequent Delivery Years, default ACRs are not an option for calculating offer caps.
- **Opportunity cost based.** An opportunity cost based offer cap which is the documented price available to an existing generation resource in a market external to PJM.
- **Alternative.** An alternative offer cap as approved by the MMU and FERC.
- **1.1 times BRA price.** Election of the 1.1 times the Base Residual Auction clearing price offer cap for the Third Incremental Auction.
- **Segmented.** Segmented offer caps, as arranged in advance with the MMU.

**Offer Caps in terms of ICAP.** Offer cap values in the Confirm Offer Caps screen are presented in \$/MW-day in terms of installed capacity (ICAP) for all auctions except Third Incremental Auctions (or Conditional Incremental Auctions held after the date on which the final EFORDs for a Delivery Year are posted), where offer caps are presented in terms of unforced capacity (UCAP). An ICAP based offer cap can be converted to a UCAP basis by dividing by  $(1 - \text{EFORD})$ , where the EFORD is the value submitted with the offer. The submission of seller offer prices and the application of offer caps in the auction are on a UCAP basis.

**MW Limit.** The MW Limit values in the Confirm Offer Caps screen are presented in terms of ICAP MW for all auctions except Third Incremental Auctions (or Conditional Incremental Auctions held after the date on which the final EFORDs for a Delivery Year are posted), where the capacity values are presented in terms of UCAP MW. For Base Residual Auctions and Third Incremental Auctions, the MW Limit value in the Confirm Offer Caps screen represents the Available MW value for the auction. For First and Second Incremental Auctions, the MW Limit

value in the Confirm Offer Caps screen represents the Minimum Available MW value for the auction.