



Monitoring
Analytics

Avoidable Cost Rate

Template Version 14.3 Instructions

RPM/ACR Data Submission

Monitoring Analytics
The Independent Market Monitor for PJM
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Avoidable Cost Rate Template Version 14.3 Instructions

Description of Version 14.3

The Avoidable Cost Rate (ACR) Template Version 14.3 is updated from Version 14.2 to include updated capital recovery factor (CRF) values for the entered delivery year and updated ACR technology classes.

The ACR Template Version 14.3 is the only template that should be used to upload ACR data to the RPM/ACR or RPM Requests modules within Monitoring Analytics MIRA application.

Supporting documentation for MOPR requests should be included in the CMS Documents section of the RPM Requests module in MIRA. Supporting documentation for unit specific offer caps should be submitted in a separate “RPM Offer Cap Documentation” request in RPM Requests module in MIRA.

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

Overview

A working template has been developed by Monitoring Analytics to assist a potential Capacity Market Seller in a PJM Reliability Pricing Model (RPM) Auction in developing and submitting ACR data for a Generation Capacity Resource. The ACR Template conforms to the ACR formula defined in PJM Open Access Transmission Tariff (OATT) Attachment DD § 6.8(a) and performs the ACR calculation when the input cells, shown in blue text, are populated.

By design, the ACR excludes any costs that are includable in the cost based energy market offers defined in the PJM Manual 15: Cost Development Guidelines (CDG). These materials, labor and other costs identified in M-15 are incremental costs of operation that are incurred as a result of starting and generating MWh, are includable in the cost based energy market offers, and therefore are not includable in the ACR calculation.

The ACR Template is designed to calculate the ACR in two steps. The first step is to build up the total fixed annual operating expenses of the generating unit. As defined in OATT Attachment DD § 6.8(a), ACR data should be based on the twelve months preceding the month in which the data must be provided. In addition, OATT Attachment DD § 6.7(d) provides for estimating the data for such time period based on the most recent data available, and providing to the MMU an explanation of and basis for the estimate. For example, if data for the prior calendar year are not available at the time of the data submission deadline for the Base Residual Auction, an acceptable basis for the time period is the twelve months ending the November 30 preceding the auction. The second step is to determine the fixed annual operating expenses of the generating unit that are avoidable

if the generating unit were to not operate for the relevant Delivery Year but maintained in a state to place it back in service.

Any cell in the ACR Template containing a formula has been locked to prevent user modification. Only the input values in blue text cells will be uploaded to the RPM/ACR module. The RPM/ACR module will recalculate the ACR value based on the input values in blue text cells in the ACR Template.

ACR Template Upload Instructions in RPM/ACR module

The RPM/ACR module within MIRA allows users to fill in unit specific information directly through the user interface, but it also gives users the option to complete the ACR Template offline and then upload the data to the system. To import unit specific ACR data to the system, the following steps should be taken:

1. Sign into the MIRA application and click on the RPM/ACR link under Reporting on the menu bar.
2. At the top of the ACR Calculation screen, select the applicable Delivery Year and Auction. A list of the capacity resources accessible to the specified account will be displayed.
3. Indicate intention to use unit specific ACR
 - a. Click the Offer Cap Type button for the capacity resource on the right side in the Actions column.
 - b. In the Offer Cap Type dialogue box, select the Unit Specific ACR check box to indicate that unit specific ACR is the desired offer cap type.
 - c. Click the Save button in the lower left side of the ACR Type dialogue box. If the Unit Specific ACR data has not yet been submitted, a warning will be displayed, but the selection will be saved.
4. Submit unit specific ACR template data
 - a. On the ACR Calculation screen, click the Unit Specific ACR button for the capacity resource on the right side in the Actions column.
 - b. On the Unit Specific ACR Calculation screen, click the Import button.
 - c. In the Select File for Import dialogue box, click the +Choose button to navigate to the completed ACR Template file.
 - d. Importing the template commits the template data to the database, and submits the Unit Specific ACR data.

ACR Template Sections

Summary Worksheet

Input the resource ID number and resource name in cells C3 and C4. Enter the Delivery Year in 20XX/20XX format in cell C5, and select the auction name from the drop down menu in cell C6. If the auction is anything other than "CP Base Residual Auction," "CP First Incremental Auction," "CP Second Incremental Auction," or "CP Third Incremental

Auction”, choose “Other” as the auction type. In cell C7, select ACR Type of Offer Cap if the ACR template will be uploaded to the RPM/ACR module for calculating a unit specific offer cap which includes the ten percent adder in the adjustment factor. In cell C7, select ACR Type of Offer Floor if the ACR template will be uploaded to the RPM Requests module for calculating MOPR offer floors, which does not include the ten percent adder in the adjustment factor.

Enter the escalation factor in cell C10. Guidelines for escalating ACR data are available on the Monitoring Analytics website’s Tools page:

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

Enter the number of years between the actual data and the relevant Delivery Year in cell C11.

The rest of the fields in the Summary worksheet are calculated by the template.

Section 1 & 2 Worksheet

Section 1 – Power Plant Technology

Select one of the ACR technology classes via the dropdown in cell C3 of the ACR Template, Section 1&2 worksheet. Monitoring Analytics will review the technology class selected and advise Capacity Market Sellers of the appropriate ACR technology class to use for a generation resource. Indicate the election of the default ACR in cell C4 via the dropdown. If the default ACR is elected, only Sections 1, 2 and 3 of the ACR Template must be completed. Input the applicable default ACR value in cell C5. The technology and Delivery Year specific default ACR values are posted on the Monitoring Analytics website’s Tools page:

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

If submission of unit specific ACR data is chosen rather than electing the default ACR, then all sections of the ACR Template must be completed.

Section 2 – General Unit Data

Input the Commercial Operation Year (COY) of the capacity resource in the ACR Template such that the appropriate Capital Recovery Factor (CRF) can be determined in Section 12 Project Investment Recovery Rate. Input the plant heat rate in BTU/kWh in cell C10. Input the installed capacity (ICAP) MW rating and Equivalent Demand Forced Outage Rate (EFORD) of the capacity resource in cells C11 and C12.

Section 2B – Non Avoidable Cost Data

Input a single opportunity cost MW and price in cells C15 and C16. Enter a brief descriptive explanation of the opportunity cost in cell C17.

Enter the capacity resource's Net Revenue in \$/MW-Year in cell C18. To view the MMU calculated Net Revenue for the capacity resource, in the RPM/ACR module, click on the Offer Cap Type button, and the MMU Net Revenue value will be displayed on the Default ACR and the Unit Specific ACR tabs. The Net Revenue value in cell C18 will display as red if the value differs from the sum of the values in Section 2C.

For Capacity Performance Resources, input the Expected Bonus Performance Payments(+)/Non-Performance Charges(-) value in \$/MW-Year in cell C19.

Input the capacity resource's bilateral costs and revenues in \$/MW-Year in cells C20 and C21.

Input a reactive capability revenue value in \$/MW-Year in cell C22 and enter the relevant reactive filing docket number(s) in cell C23.

Section 2C – Net Revenue Data

In cells C26 through C30, enter the capacity resource's components of net revenue in \$/MW-Year. These components include Energy Revenues, Regulation Revenues, Synchronized Reserve Revenues, Nonsynchronized Reserve Revenues, and Secondary Reserve Revenues. The sum of these values is expected to match the Net Revenue value entered in cell C18.

Section 3 – Technical Information Worksheet

Unit technical information is used by Monitoring Analytics to understand the design of the generating unit in order to assess the submitted ACR. Section 3 has been divided into three subsections. Only one subsection needs to be completed based on the technology class. Subsection 3A (columns B and C) covers combustion turbine (CT) based generation such as simple cycle CTs, combined cycles, and diesel units. Subsection 3B (columns E and F) covers conventional boiler steam units fired with gas, oil, coal or waste coal. Subsection 3C (columns H and I) covers hydro and pumped storage units. Drop down input options have been provided where appropriate to assist the Capacity Market Seller in completing Section 3.

Section 4 & 5 Worksheet

Section 4 – Operations and Maintenance Labor (AOML)

Input annual operation and maintenance labor expenses in cell C3. Input an estimate of the percent of the operation and maintenance labor expenses which are avoidable in cell D3.

Section 5 – Administrative Expense (AAE)

Input annual administrative salary expenses in cell C7. Input an estimate of the percent of the administrative salary expenses which are avoidable in cell D7.

Input annual employee expenses in cell C8. Input an estimate of the percent of the employee expenses which are avoidable in cell D8.

Input annual environmental fees in cell C9. Input an estimate of the percent of the environmental fees which are avoidable in cell D9.

Input annual safety and operator training expenses in cell C10. Input an estimate of the percent of the safety and operator training expenses which are avoidable in cell D10.

Input annual office supplies expenses in cell C11. Input an estimate of the percent of the office supplies expenses which are avoidable in cell D11.

Input annual communications expenses in cell C12. Input an estimate of the percent of the communications expenses which are avoidable in cell D12.

Input annual plant tests, inspections and analysis expenses in cell C13. Input an estimate of the avoidable percent of the plant tests, inspections and analysis expenses in cell D13.

Section 6 & 7 & 8 Worksheet

Section 6 – Avoidable Maintenance Expenses (AME)

The maintenance expenses input into Section 6 cover those maintenance expenses not includable in cost based energy market offers.

Input annual maintenance parts expenses in cell C3. Input an estimate of the avoidable percent of the maintenance parts expense in cell D3.

Input annual maintenance contract services expenses in cell C4. Input an estimate of the avoidable percent of the maintenance parts expense in cell D4.

Input annual chemical and materials consumed expenses in cell C5. Input an estimate of the avoidable percent of the chemical and materials consumed expenses in cell D5. For example, this category can include water and chemicals for chemical cleaning of equipment, machinist cutting oils, tools, etc.

Input annual rented equipment expenses in cell C6. Input an estimate of the avoidable percent of the rented equipment expense in cell D6. For example, this category can include rented air compressors, lights, generators, welders, cranes, tools, etc.

Section 7 – Avoidable Variable Expenses (AVE)

The variable expenses in Section 7 include those relevant variable expenses not includable in cost based energy market offers.

Water treatment chemical expense is includable in cost based energy market offers and is therefore not includable in AVE.

Annual lubricants expense is includable in cost based energy market offers and is therefore not includable in AVE.

Input annual water (not for power generation) expenses in cell C12. Input an estimate of the avoidable percent of the water expenses in cell D12. For example, this category can include potable water and service water.

Input annual gas (not for power generation) expenses in cell C13. Input an estimate of the avoidable percent of gas expenses in cell D13. For example, this category can include natural gas for heating of shops, warehouses and offices.

Input annual electric (not for power generation) expenses in cell C14. Input an estimate of the avoidable percent of electric expenses in cell D14. For example, this category can include electric for heating and/or lighting of the power plant boiler area, turbine hall, shops, warehouses, parking lot and offices.

Annual waste water treatment expense is includable in cost based energy market offers and is therefore not includable in AVE.

Section 8 – Taxes, Fees and Insurance (ATFI)

The variable expenses in Section 8 include those relevant variable expenses not includable in cost based energy market offers.

Input annual insurance premiums expenses in cell C19. Input an estimate of the avoidable percent of the insurance premiums expenses in cell D19. For example, this category can include business interruption, property boiler and machinery and general liability premiums. Reductions in premiums would be anticipated as the plant would not be operating yet secured against vandalism and inspected and maintained by on site staff. Input from the owner's insurance carrier, broker or consultant is suggested.

Input annual permits and licensing fees in cell C20. Input an estimate of the avoidable percent of the permits and licensing fees expenses in cell D20. For example, this category can include fees for river, water, sewer and air permits and any licensing fees associated with certain plant equipment or processing systems.

Input annual site security and utilities expenses in cell C21. Input an estimate of the avoidable percent of the site security and utilities expenses in cell D21.

Input annual property tax payment expenses in cell C22. Input an estimate of the avoidable percent of the property tax payment expenses in cell D22. For example, this category can include city, township or county property taxes.

Section 9 – Avoidable Carrying Costs (ACC) Worksheet

The carrying costs input into Section 9 cover the costs of keeping spare parts and fuel inventory on site.

Input the value of the total current spare parts inventory in cell C3. Input an estimate of the avoidable percent of the spare parts inventory in cell D3.

In Version 12 of the ACR Template, the value of the total current fuel inventory was calculated by completing cells C10-12 in Section 9A Liquid Fuel Inventory and cells F10-12 in Section 9B Coal Inventory. In Version 13 of the ACR Template, Sections 9A and 9B have been removed, and the value of the total current fuel inventory is input directly in cell C4. Input an estimate of the avoidable percent of the fuel inventory in cell D4.

Input the value of the total current other inventory in cell C5. Input an estimate of the avoidable percent of the spare parts inventory in cell D5.

Input the annual carrying cost interest rate in cell C7.

Section 10 – Avoidable Corporate Level Expense (ACLE) Worksheet

Input annual legal services expenses in cell C3. Input an estimate of the avoidable percent of the legal services expenses in cell D3.

Input annual environmental reporting expenses in cell C4. Input an estimate of the avoidable percent of the environmental reporting expenses in cell D4.

Input annual procurement expenses in cell C5. Input an estimate of the avoidable percent of the procurement expenses in cell D5.

Section 11 – Fuel Availability Expenses (FAAE) Worksheet

Input firm gas pipeline transportation expense in cell C3. Input an estimate of the avoidable percent of the firm gas pipeline transportation expense in cell D3.

Input natural gas storage costs in cell C4. Input an estimate of the avoidable percent of the natural gas storage costs in cell D4.

Input costs of gas balancing agreements in cell C5. Input an estimate of the avoidable percent of the costs of gas balancing agreements in cell D5.

Input costs of gas park and loan services in cell C6. Input an estimate of the avoidable percent of the costs of gas park and loan services in cell D6.

Section 12 – Project Investment Recovery Rate (APIR) Worksheet

The Project Investment (PI) is determined by completing the capital cost line items in Section 12 in cells C3 through C13. Select the appropriate Remaining Life of Plant in cell C18. The corresponding CRF flows into the Project Investment Recovery Rate calculation. The Avoidable Project Investment Recovery Rate is calculated in cell C26 of the Summary tab.

Input avoidable refunds of project investment reimbursements in cell C22.

Section 13 – Capacity Performance Quantifiable Risk (CPQR) Worksheet

Input insurance expenses solely attributable to risk of being a Capacity Performance (CP) Resource (or of a Base Capacity Resource for the 2018/2019 and 2019/2020 Delivery Years) in cell C3. Input an estimate of the avoidable percent of the insurance expenses solely attributed to mitigating the risk of being a CP resource in cell D3.

Input other supported Capacity Performance Quantifiable Risk expenses solely attributable to mitigating the risks of non-performance associated with submission of a Capacity Performance Resource offer (or of a Base Capacity Resource offer for the 2018/2019 or 2019/2020 Delivery Years) in cell C4. Input an estimate of the avoidable percent of the other Capacity Performance Quantifiable Risk costs in cell D4.