Credit Overview and Supplement

An overview of the PJM Credit Policy and Credit Requirements, and Supplement to the PJM Open Access Transmission Tariff, Attachment Q

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Note: This document is an overview and supplement, and does not contain every detail of the actual credit policy.
Please refer to the credit policy and other official documents when researching details on a particular topic.

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Introduction

Background

"PJM", as used herein, refers to PJM Interconnection, LLC and/or PJM Settlement, Inc., as appropriate for the circumstance. Note that PJM Settlement, Inc. is the actual counterparty to transactions in markets administered by PJM Interconnection, LLC. This overview explains the majority of credit issues and requirements that affect PJM and its Participants. This document is a summary only and does not necessarily include all credit-related provisions of the PJM Open Access Transmission Tariff ("OATT" or "Tariff") or the PJM Operating Agreement or other agreements between PJM and its Participants (collectively, the "PJM Agreements"). All applicants, participants and members (herein referred to as "Participants") are responsible to review and understand the PJM Agreements themselves. **If conflicts exist between explanations in this Overview and any of the PJM Agreements, the PJM Agreements will govern.** In addition, except as otherwise provided in the PJM Agreements, PJM may modify or supplement, following stakeholder review and comment, the requirements stated in this Overview except for changes to conform to the PJM Agreements. Note that the PJM Agreements are always open for discussion and change, through the appropriate forums, and all participants are responsible for adhering to the provisions of all of the PJM Agreements.

As provided for in FERC Order 890, this document also serves as a supplement to Attachment Q of the Tariff (the "Credit Policy"). As a supplement, it describes practices and procedures (such as the credit scoring algorithm) which are not part of the filed Tariff. Such descriptions are intended to document PJM's implementation of the PJM Agreements, but in case of conflict between this document and any of the PJM Agreements, the PJM Agreements shall govern.

PJM's credit provisions are administered by the PJM Credit Department.

Overview

PJM requires Participants to maintain credit equal to the highest exposure experienced in the past year, which is generally the sum of the highest three consecutive weekly bills during that time. In addition, Participants' current obligations may not exceed 75 percent of the credit established with PJM at any time. Special credit requirements and/or rules also exist for virtual transactions, financial transmission rights (FTRs) and capacity (Reliability Pricing Model (RPM), and may be created for other special markets as well.

Participants may establish credit by submission of cash collateral, letter of credit, guaranty, and/or by satisfaction of a creditworthiness evaluation. PJM continually monitors Participants' activity against credit available, and may issue collateral calls with two days to cure if needed. Creditworthiness is also monitored regularly and reviewed at least annually.

Participants are responsible for monitoring both their positions and their credit available, including unsecured credit (which may change from time to time), and for maintaining compliance with all provisions of the Credit Policy. Participants may see their credit position

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any time by using PJM's eCredit system, which is one of the eSuite applications available on PJM's website.

In the event that PJM needs to contact a participant, PJM will make a reasonable attempt to do so using recent contact information available to the involved PJM staff, but in any event, PJM's responsibility to notify the Participant will be satisfied if PJM sends an email notification to either a primary or secondary Members Committee Representative for the Participant. It is the Participant's responsibility to ensure that such a representative exists, and that contact information is correct.

eCredit

eCredit is a PJM eSuite application which will allow Participants to do the following:

- View credit position
  - Credit requirements
  - Current exposure
  - Available credit
  - Virtual transactions available credit
  - Credit sources
  - Unallocated credit
  - Collateral returnable
- Allocate credit between accounts
- Allocate credit between FTRs, RPM and market credit
- Request collateral returns
- Update credit contacts
- View and download reports for current and historical data
  - Cash and Letters of Credit
  - Member data
  - Account data
  - Report data can be downloaded in a .csv file
  - Historical data not available for time periods prior to the start of eCredit (3/4/11)

eCredit can be accessed through eSuite on the PJM website at PJM.com>eTools Login>eCredit. Individuals must have an eSuite login established by their own company's CAM (Company Account Manager) in order to access eCredit.

Contacts

PJM Credit Department (866-400-8980) Credit_hotline@pjm.com

For: questions related to credit application, credit policy, credit limits, unsecured credit, collateral amounts, etc.

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PJM Treasury Department (866-400-8980) cash_management@pjm.com

For: questions related to invoice payments & receipts, invoice wire instructions, collateral accounts

PJM Member Relations (866-400-8980) CustSvc@pjm.com

For: questions related to membership applications accounts, markets, and other PJM issues. *Note*: All credit applications should be sent to Member Relations, not to the Treasury Department.

Credit Application and Related Forms

Entities wishing to become PJM members or transmission customers must complete and submit the appropriate member or customer forms, including the Credit Application form, which must be approved before any activity may take place. The form is available on PJM's web site in the member section. Depending on what type of activity or credit the entity is contemplating, different sections of the form will need to be completed. The form includes instructions on which portions are required.

Also on PJM's web site is a set of supplementary forms, including PJM's standard form of Letter of Credit and Corporate Guaranty, bank wire forms, and more.

Credit Monitoring

PJM's credit staff monitors daily Participant creditworthiness and Participant activity and responds to questions from both current participants and potential new applicants. Participants may view their credit position through eCredit.

If a Participant violates PJM's credit or payment requirements, PJM will notify the Participant, and the Participant will have two business days from notice to cure the violation. If the Participant fails to cure the violation after two business days, PJM will declare the violating Participant in default, and will terminate its ability to participate in PJM markets. Notifications of defaults are sent to the entire PJM membership. If a defaulting Participant is serving load, PJM may initiate a process to transfer load back to the provider of last resort.

PJM may also issue a collateral call if a Participant's credit requirements approach or exceed its credit limit. Such collateral call must be satisfied within two business days. For example, a collateral call issued any time on Wednesday would be due by Friday at 4:00 p.m. Eastern Time. Collateral call emails are issued through eCredit.

Two-business-day cure periods expire at 4:00 p.m. on the second day. PJM may liquidate a defaulting Participant's collateral to satisfy the Participant's obligations. If a defaulting Participant subsequently cures its default, PJM may reinstate the Participant's ability to participate in the markets. However, some restrictions may be imposed on the Participant.

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Credit Violations

A Participant will be in default if it does not cure a collateral call or payment notice within the two-day cure period.

Participants in default may not participate in any PJM market activities, and may not participate or vote in any committees, PJM shall notify members of defaults.

Participants in default may be reinstated, but may have the following restrictions imposed (subject to the appeal):

1. Following cure of the first collateral default in any 12-month period: no restrictions.

2. Following cure of the first payment default or second default of any type in any 12-month period: Loss of stakeholder privileges, including voting privileges, for 12 months, and loss of the allowance of unsecured credit for 12 months.

3. Following a second payment default or third default of any type in any 12 month period: Loss of reinstatement right, termination of membership rights (subject to filing with FERC), liquidation of positions, prohibition from seeking readmission for membership.

A Member may appeal these restrictions utilizing PJM's dispute resolution procedure and may be reinstated provided that the Member can demonstrate the following: a) that it has otherwise consistently complied with its obligations under this Agreement and the PJM Tariff; and b) the failure to comply was not material; and c) the failure to comply was due in large part to conditions that were not in the common course of business.

Minimum Participation Requirements

PJM has established and filed with the FERC a set of Market Participation Eligibility Requirements. These requirements are designed to establish compliance with the Commodities Futures Trading Commission (CFTC) requirements for exemption of PJM market transactions from CFTC reporting requirements established pursuant to Dodd-Frank legislation. These eligibility requirements became effective August 12, 2013, with a transition period expiring September 30, 2013 for existing members to demonstrate compliance.

PJM has also established, per Federal Energy Regulatory Commission direction in Order 741 (October 2010), a set of minimum training, risk management, communication and capital or collateral requirements required for Participants in the PJM markets, as set forth in the Credit Policy. Certain FTR Participants and selected other Participants (as described below) will also be required to demonstrate additional risk management procedures and controls.

It is physically possible to be in compliance with one of these two sets of rules but not the other, however, compliance with both sets of rules is necessary for Participants in PJM's markets.

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When the provisions related to the financial aspects of Minimum Participation Requirements provisions are applied to a Participant, it is the resulting reduced amounts of credit, whether unsecured credit or collateral, which will be eligible to satisfy the Participant's Credit Requirements.

PJM Market Participation Eligibility Requirements

These rules were established to comply with requirements for exemption from CFTC transaction reporting requirements under rules established pursuant to Dodd-Frank legislation.

To be eligible to transact in PJM Markets, a Market Participant must demonstrate that it qualifies in one of the following ways:

1. an "appropriate person," as that term is defined under Section 4(c)(3), or successor provision, of the Commodity Exchange Act, or;

2. an "eligible contract participant," as that term is defined in Section 1a(18), or successor provision, of the Commodity Exchange Act, or;

3. a business entity or person who is in the business of: (1) generating, transmitting, or distributing electric energy, or (2) providing electric energy services that are necessary to support the reliable operation of the transmission system, or;

4. a Market Participant seeking eligibility as an "appropriate person" providing an unlimited Corporate Guaranty in a form acceptable to PJMSettlement as described in Section I.C of Attachment Q from an issuer that has at least $1 million of total net worth or $5 million of total assets per Participant for which the issuer has issued an unlimited Corporate Guaranty, or;

5. a Market Participant providing a letter of credit of at least $5 million to PJMSettlement in a form acceptable to PJMSettlement as described in Section VI.B of Attachment Q that the Market Participant acknowledges is separate from, and cannot be applied to meet, its credit requirements to PJMSettlement.

If, at any time, a Market Participant cannot meet the eligibility requirements set forth above, it shall immediately notify PJMSettlement and immediately cease conducting transactions in the PJM Markets. PJMSettlement shall terminate a Market Participant's transaction rights in the PJM Markets if, at any time, it becomes aware that the Market Participant does not meet the minimum eligibility requirements set forth above.

In the event that a Market Participant is no longer able to demonstrate it meets the minimum eligibility requirements set forth above, and possesses, obtains or has rights to possess or obtain, any open or forward positions in PJM's Markets, PJMSettlement may take any such action it deems necessary with respect to such open or forward positions, including, but not limited to,

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liquidation, transfer, assignment or sale; provided, however, that the Market Participant will, notwithstanding its ineligibility to participate in the PJM Markets, be entitled to any positive market value of those positions, net of any obligations due and owing to PJM and/or PJMSettlement.

Risk Management and Verification

Every Participant must submit to PJM annually by April 30 an Officer Certification form appropriately initialed certifying to conditions that are required for its continued activity in the PJM markets. Applicants must submit the form prior to initiating activity. Failure to provide the form as required or to adhere to the certifications therein may result in suspension of the Participant's ability to transact in PJM's markets. The form is posted on PJM's web site along with membership forms and also on the Credit Subcommittee web page.

Additionally, Certain FTR Participants (those providing representations found in paragraph 3.b of the annual certification form) are additionally required to submit a copy of their current governing risk control policies, procedures and controls applicable to their FTR trading activities. Those FTR Participants also are required to pay PJM Settlement, Inc. a one-time $1,000 fee when they first submit such policies. If the policies, procedures and controls ever change, the FTR Participant must submit (without fee) the revised documentation to PJM for review.

Through a periodic compliance verification process, PJM Settlement will review and verify, as applicable, a Participant's risk management policies, practices, and procedures pertaining to the Participant's activities in the PJM markets. Such review shall include verification that:

1. The risk management framework is documented in a risk policy addressing market, credit and liquidity risks.

2. The Participant maintains an organizational structure with clearly defined roles and responsibilities that clearly segregates trading and risk management functions.

3. There is clarity of authority specifying the types of transactions into which traders are allowed to enter.

4. The Participant has requirements that traders have adequate training relative to their authority in the systems and PJM markets in which they transact.

5. As appropriate, risk limits are in place to control risk exposures.

6. Reporting is in place to ensure that risks and exceptions are adequately communicated throughout the organization.

7. Processes are in place for qualified independent review of trading activities.

8. As appropriate, there is periodic valuation or mark-to-market of risk.

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If principles or best practices relating to risk management in FTR-type markets are published by a third-party industry association, then following stakeholder discussion and with no less than six months prior notice to stakeholders, PJM may apply such principles or best practices in determining the fundamental sufficiency of the FTR Participant's risk controls.

In addition to the FTR Participants identified above, PJM Settlement may select other Participants for review on a random basis and/or based on identified risk factors such as, but not limited to, the PJM markets in which the Participant is transacting, the magnitude of the Participant's transactions in the PJM markets, or the volume of the Participant's open positions in the PJM markets. Those Participants notified by PJM Settlement that they have been selected for review shall, upon 14 calendar days' notice, provide a copy of their current governing risk control policies, procedures and controls applicable to their PJM market activities and shall also provide such further information or documentation pertaining to the Participants' activities in the PJM markets as PJM Settlement may reasonably request. Participants selected for risk management verification through a random process and satisfactorily verified by PJM Settlement shall be excluded from such verification process based on a random selection for the subsequent two years. PJM Settlement shall annually randomly select for review no more than 20% of the Participants in each member sector.

If PJM cannot successfully complete the verification process for a Participant, PJM will so notify the Participant in writing, including an explanation of the deficiency that is preventing verification, and will allow the Participant 14 calendar days to provide sufficient evidence for verification prior to declaring (in writing, with explanation) the Participant as ineligible to continue to participate in PJM's markets and disabling the Participant's transaction capabilities. If, prior to the expiration of such 14 calendar days, the Participant demonstrates to PJM Settlement that it has filed with the Federal Energy Regulatory Commission an appeal of PJM Settlement's risk management verification determination, then the Participant shall retain its transaction rights, pending the Commission's determination on the Participant's appeal.

PJM Settlement may retain outside expertise (a "third party") to perform the review and verification function. PJM Settlement and any third party it may retain will treat as confidential the documentation provided by a Participant for review, consistent with the applicable provisions of the Operating Agreement. A Participant may "opt out" of a third party review and request that PJM itself perform the review, provided however, that employees and contract employees of PJM Settlement and PJM shall not be considered to be third parties.

Capitalization

Minimum Capitalization

FTR Participants must demonstrate a tangible net worth in excess of $1 million or tangible assets in excess of $10 million. Other Participants must demonstrate a tangible net worth in excess of $500,000 or tangible assets in excess of $5 million. Demonstration of tangible assets and net worth may be satisfied through presentation of an acceptable Corporate Guaranty, provided that both: (i) the guarantor is an affiliate company that satisfies the tangible net worth or tangible assets requirements, and; (ii) the Corporate Guaranty is either unlimited or at least

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$500,000. If the Corporate Guaranty presented by the Participant to satisfy these Capitalization requirements is limited in value, then the amount usable for satisfying credit requirements will be the face value less $500,000 and less an additional 10% of the remainder; also; any additional collateral will be reduced in value by 10%.

Collateral Alternative

If a Participant does not satisfy the Minimum Capitalization requirements above, it may still qualify to participate in PJM's markets by posting additional collateral. Such collateral will be restricted as follows: (i) Collateral provided by FTR Participants shall be reduced by $500,000 and then further reduced by 10%; (ii) Collateral provided by other Participants that engage in virtual transactions shall be reduced by $200,000 and then further reduced by 10%; and (iii) Collateral provided by other Participants that do not engage in virtual transactions shall be reduced by 10%. These reduced collateral values will be considered the Financial Security available to satisfy requirements of the Credit Policy. In the event a Participant that satisfies the Minimum Participation Requirements through provision of collateral also provides a Corporate Guaranty to increase its available credit, then the Participant's resulting Unsecured Credit Allowance conveyed through such Guaranty shall be the lesser of: (1) the applicable Unsecured Credit Allowance available to the Participant by the Corporate Guaranty pursuant to the creditworthiness provisions of this credit policy, or, (2) the face value of the Guaranty, reduced by 10%.

Credit Requirements

PJM establishes and monitors credit requirements on two general levels: long-term and short-term. The long-term requirement establishes the credit (unsecured or secured) that a Participant must maintain with PJM. The short-term requirement involves measuring current obligations and comparing them with a Working Credit Limit to see if current exposure has reached or exceeded a Participant's Working Credit Limit.

PJM also has established special credit provisions for certain markets or activities. Virtual transactions, RPM, and the FTR markets are each subject to special credit provisions. PJM may carve out a portion of a Participant's credit in order to satisfy these provisions, but such carve-out does not restrict PJM's ability to apply the credit to any obligations of the Participant in event of default.

Long-term credit requirement ("Peak Market Activity")

The long-term credit requirement is the credit that must be maintained with PJM. For normal market activity and its associated general obligations, PJM uses historical activity as a measure of potential future credit needs. For this purpose, the year is divided into two semiannual periods ending in early April and October. Within each semiannual period, each Participant must have credit with PJM equal to the three highest consecutive weeks of total PJM bills ending in that semiannual period (or one or two week period if greater than the three highest consecutive weeks combined). This is called the Participant's Peak Market Activity ("PMA").

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At the beginning of each semiannual period, the PMA value is reset to the three-week average of all non-zero weekly invoices over the prior 52 weeks, unless the most recent three-week calculation is higher, in which case the higher value is used.

Note that three weeks is used since that is the approximate maximum exposure period for non-FTR PJM market activity, and consists on any Friday, for example, of the following obligations: the invoice (billed obligations) due that day for the week ending nine days prior, the unbilled obligations for the subsequent week ending two days prior to the Friday, unbilled obligations for Thursday and Friday, and potential obligations for five additional days of exposure arising from the two-business-day cure period (ending Tuesday afternoon) extending over a two-day weekend, plus obligations for Wednesday resulting from bids that could have been bid into the markets on Tuesday morning.

When calculating PMA, FTR-related items on the weekly grid bills are be removed, since they are the subject of a separate credit requirement explained later. Note, however, that each member must have enough credit to support such FTR exposure while it is considered current exposure (on a current unpaid grid bill or when it is accrued but unbilled), as described later. Some members may also have charges and credits related to non-PJM obligations (most typically related to FRR obligations during a transition period when new geographic regions join PJM) removed from credit requirement calculations since they are pass-through amounts and are not subject to PJM membership assessment in event of default.

Limited exceptions to the PMA credit requirement exist if either PJM believes that prior activity is no longer a reasonable measure of future activity (such as with permanent load shifts due to state-run load auctions) or the Participant has entered into a prepayment agreement acceptable to PJM.

For new Participants, PJM works with the Participant to establish an estimated activity level, which becomes the basis for a credit requirement. At a minimum, PJM requires $50,000 of credit for any new Participant (other than a generation resource that is only selling in to PJM, or certain demand response resources) until/unless it demonstrates twelve consecutive months of activity.

Example 1 (three week total represents PMA)

If a Participant's total bills in the past five weeks (e.g. late July through August) were as in Table 1, and assuming that all other weeks in the past year were less than $500,000, then the credit requirement would be $1.6 million – the sum of weeks 2 thru 4 – because they are the greatest three consecutive weeks in the past 52 weeks, and no single week or two consecutive weeks exceeds that amount.. The peak requirement could go up if week 6 has activity greater than $600,000, or at any time in the future, if the 1-, 2-, or 3-consecutive week activity exceeds this level. The PMA credit requirement would not drop until the next semiannual reset point in early October.

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Long-Term Credit Requirement Example 1

Week 1	Week 2	Week 3	Week 4	Week 5
$200,000	$800,000	($100,000)	$900,000	$100,000

Table 1

Example 2 (1-week number represents PMA)

If a Participant's total bills in the past five weeks were as in the Table 2, and assuming that all other weeks in the past year were less than $300,000, then the credit requirement would be $900,000 – the single week 3 – because it is greater than any two or three consecutive weeks together.

Long-Term Credit Requirement Example 2

Week 1	Week 2	Week 3	Week 4	Week 5
$100,000	($200,000)	$900,000	($100,000)	$100,000

Table 2

A Participant receiving unsecured credit may make early payments up to ten times in a rolling 52-week period in order to reduce its PMA credit requirement. Payments must be received prior to issuance of the invoice for a given week in order to qualify for an imputed reduction in that week. The imputed PMA reduction attributed to any payment may not exceed the amount of Unsecured Credit Allowance for which the Participant is eligible.

Example 3 (Combined - semiannual PMA reset and two-week total represents PMA)

At the October reset date, a Participant's average weekly activity for the past year is $200,000. Its most recent three weeks were ($400,000), $900,000, and $100,000. The PMA calculated at the reset would be $1,000,000, which is the total of the two consecutive weeks. Those two weeks represent the recent three-week peak (since together they are higher than the three-week total), and their value is higher than the long-term 3-week average ($600,000).

Example 4 (Early payment to reduce PMA)

A participant receiving $2 million in unsecured credit from PJM has net invoices owed to PJM equaling $3 million each in Weeks 1, 2 and 3. Absent any early payments, the participant's Peak Market Activity would be $9 million from these three weeks alone. The participant may make early payments of up to $2 million in each of those three weeks and bring its Peak Market Activity down to an imputed $3 million total. The participant could then provide $1 million of collateral (to supplement its $2 million of unsecured credit) to meet its credit requirement rather than the $6 million of collateral that would have otherwise been required absent the early payments.

Short-term credit requirement ("Current Obligations" and "Working Credit Limit")

The short-term credit requirement involves the continual monitoring of activity against available credit for each participant. PJM establishes a Working Credit Limit for each Participant that equals 75 percent of the Participant's market credit (credit remaining after any

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applicable reductions for minimum participation requirements and not assigned directly for specific activities such as FTRs or RPM) with PJM. The 25 percent reserve provides a buffer for cure periods and for market activity close-out in case of terminating Participants. At no time may a Participant's obligations, which include current month obligations plus any unpaid prior month obligations, exceed the working credit limit. If a Participant's obligations exceed its working credit limit, PJM requires either an early payment or increased collateral in order for the Participant to regain compliance with the policy. A Participant has two business days to comply. Current obligations include all activity on the invoice, including FTR activity which is excluded from Peak Market Activity as described above. Current obligations do not include non-PJM pass-through amounts as described above under "Long-term credit requirement."

Note that even if an early payment is made, additional collateral still may be required if the Participant's Peak Market Activity exceeds its current market credit available with PJM.

Virtual transactions

Virtual transactions technically do not create any additional credit requirements beyond the two general requirements for all activity above. However, virtual transactions may be restricted by the amount of credit a Participant has available, so some Participants voluntarily provide some additional credit, which enables them to do more virtual transactions than they could if they established only the minimum credit requirement.

Virtual transactions consist of INC Offers and DEC Bids along with Up-to Congestions transactions. Credit provisions for each are applied through a transaction screening process that utilizes historical reference prices to calculate an INC and DEC Exposure and an Up-to Congestion Exposure and rejects submitted transactions if the sum of those two exposures exceeds the Participant's Credit Available for Virtual Transactions. The screening is performed as Virtual Transactions for each market day are entered. Virtual Transactions may be entered in batches. If a batch of submitted Virtual Transactions causes the credit limit to be exceeded, then that one batch of Virtual Transactions is rejected; previously submitted and accepted Virtual Transactions are unaffected.

INC and DEC Exposure

Reference prices for INC Offers and DEC Bids are calculated separately for each location on the PJM grid. The year is divided into six two-month periods (January-February, March-April, May-June, July-August, September-October and November-December). For each period, the absolute value difference between the cleared day-ahead price and the actual real-time price for each hour in each day during that period in the previous year is calculated. (There will be 1,488 such hourly values for each location in July-August.) Those values are then ranked, and the 97th percentile value (e.g. the ~44th highest for July-August) is chosen as the reference for that location. Reference prices are applied to the bid locations with which they are associated, so bids at different locations will be multiplied by different reference prices.

The INC and DEC Exposure is calculated as follows. First, the MWh for all current market day and prior market day submitted day-ahead INC Offers and DEC Bids are summed and

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multiplied by their reference prices. Second, the calculation is repeated using current submitted INC Offers and DEC Bids plus the three prior days of cleared offers and bids. The lesser of these two values is the INC and DEC Exposure.

Up-to Congestion Exposure

Reference values for Up-to Congestion transactions are calculated separately for every allowable path. The Up-to Congestion Reference Price for a path for a given month is the historical real-time price for the path at the given percentile (see below) of historical hours calculated for the prior Up-to Congestion Historical Month, averaged with the same percentile value calculated for the second prior Up-to Congestion Historical Month. An Up-to Congestion Historical Month is the month-long timeframe for which statistics are calculated and used in the Up-to Congestion Exposure calculation. In order to allow for processing and posting time, the Up-to Congestion Historical Month for up-to congestion credit calculations is time-shifted from normal calendar months. As currently implemented, each Up-to Congestion Historical Month consists of the first 20 days in that calendar month plus all days after the 20th in the preceding calendar month. For example, the Up-to Congestion Historical Month of April consists of March 21 through April 20. PJM may adjust this defined Up-to Congestion Historical Month to allow for sufficient calculation time, but will try to match a calendar month as closely as reasonably possible on a consistently defined basis.

A path is considered counterflow if the value of the path is negative. When bidding, the path value used for counterflow determination is the lower of the bid price and the average Day-ahead value of the path for the prior Up-to Congestion Historical Month. For cleared paths, the value used is the actual cleared DA price of the path. A path will be deemed prevailing flow if it is not counterflow.

The Up-to Congestion Exposure for any transaction hour is the product of the MWH for the path times the difference between the bid price and the Up-to Congestion Reference Price (see below). The Up-to Congestion Exposure for a Participant for a market day is the sum of the positive transaction hour exposures across all paths and all transaction hours. The Up-to Congestion Exposure for a participant at any time is the sum of the daily exposure totals for the most recent three cleared market days plus the next uncleared market day.

Up-to Congestion Reference Prices are calculated using the following historical percentiles:

For Up-to Congestion Prevailing Flow Paths: 30th percentile (both bid and cleared)
For Up-to Congestion Counterflow Paths when bid: 20th percentile
For Up-to Congestion Counterflow Paths when cleared: 5th percentile.

These percentiles provide, respectively, the 70th, 80th, and 95th percentiles of exposure when they are subtracted from the submitted or cleared price for a given path.

See Appendix 2: UTC Credit Requirement Example for examples of Up-to Congestion credit requirement calculations.

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Credit Available for Virtual Transactions

Credit Available for Virtual Transactions is a Participant's total credit established with PJM, after any applicable reductions for minimum participation requirements, less any special set-asides (e.g. FTR auction), less any current obligations to PJM (e.g. billed but unpaid plus unbilled), less 25 percent of the Participant's Peak Market Activity credit Requirement (see explanation of working credit limit under "Short-term credit requirement" above), plus any unbilled profits.

Virtual Transactions Credit in eCredit

The eCredit application calculates the Credit Available for Virtual Transactions for each Participant. Participants with multiple accounts use eCredit to allocate their Credit Available for Virtual Transactions to their accounts by designating a percentage of that credit to be applied to each account. Periodically (currently each night and once mid-morning), PJM's systems populate the Markets database with the appropriate Virtual Transactions credit available for each account, as established by eCredit, so that the appropriate credit is available for screening bids into the day-ahead market. When Participants attempt to reallocate their percentage allocations of Credit Available for Virtual Transactions among accounts, eCredit will disallow a reallocation if it would cause any account's reduced credit allocation in dollars to fall below that account's current Virtual Transaction exposure (INC and DEC Exposure plus Up-to Congestion Exposure).

Reliability Pricing Model ("RPM") – Capacity Market

Resources that are offered into an RPM auction, resources that subsequently clear an RPM auction, and resources that are offered as part of an FRR plan must provide credit if they are "planned" resources (not fully existing and in service). This includes planned generation, planned demand or energy efficiency resources, planned transmission upgrades, and planned or existing capacity resources located outside of PJM that have not procured firm transmission into PJM for the duration of the obligation.

RPM Auction Credit Requirement

The RPM credit requirement is the RPM Auction Credit Rate times the megawatts submitted or committed. The Auction Credit Requirement is determined separately for each Delivery Year, and the total RPM credit requirement for a Participant is the sum of all of its individual RPM credit requirements. Credit must be provided prior to an auction for planned resources offered into the auction, but the requirement will be reduced after the auction based on the amount of MW that cleared and the Auction Credit Rate resulting from the auction. Participants must specifically designate any credit set aside for RPM through use of the eCredit application described later.

Reduction in Credit Requirement

For Planned Demand Resources and Energy Efficiency resources, and for existing generation resources outside of PJM without firm transmission to the PJM border, the RPM Credit requirement will be reduced in direct proportion to the amount of demand resources, ILR, and

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Firm transmission that are qualified or procured. For Planned Generation Resources, the RPM Credit Requirement will be reduced by 50% as of the effective date of an Interconnection Service Agreement ("ISA"), and shall be reduced to zero on the date of commencement of Interconnection Service.

For Planned Generation Capacity Resources located outside the PJM Region, the RPM Credit Requirement will be reduced when both an ISA is signed, and when 50% or more of the necessary megawatts of qualified firm transmission service have been secured; the RPM Credit Requirement will be reduced to zero when both the resource commences Interconnection Service and 100% of the megawatts of firm transmission service have been secured.

For Qualifying Transmission Upgrades, the RPM Credit Requirement will be reduced by 50% as of the effective date of the latest associated Interconnection Service Agreement (or, when a project has no such agreement, an Upgrade Construction Service Agreement), and will be reduced to zero on the date the Qualifying Transmission Upgrade is placed in service. In addition, a Qualifying Transmission Upgrade will be allowed a reduction in its RPM Credit Requirement equal to the amount of collateral currently posted with PJM for the facility construction when the Qualifying Transmission Upgrade meets the following requirements: the Upgrade Construction Service Agreement has been fully executed, the full estimated cost to complete as most recently determined or updated by PJM has been fully paid or collateralized, and all regulatory and other required approvals (except those that must await construction completion) have been obtained. Such reduction in RPM Credit Requirement may not be transferred across different projects.

RPM Auction Credit Rate

As set forth in the PJM Manuals, a separate Auction Credit Rate shall be calculated for each Delivery year as follows:

For Delivery Years through the Delivery Year that ends on May 31, 2012, the Auction Credit Rate for any resource for a Delivery Year shall be (the greater of $20/MW-day or 0.24 times the Capacity Resource Clearing Price in the Base Residual Auction for such Delivery Year for the Locational Deliverability Area within which the resource is located) times the number of days in such Delivery Year.

For Delivery Years beginning with the Delivery Year that commences on June 1, 2012:

a. Prior to the posting of the results of a Base Residual Auction for a Delivery Year, the Auction Credit Rate shall be (the greater of (i) 0.3 times the Net Cost of New Entry for the PJM Region for such Delivery Year, in MW-day or (ii) $20 per MW-day) times the number of days in such Delivery Year.

b. Subsequent to the posting of the results from a Base Residual Auction, the Auction Credit Rate used for ongoing credit requirements for supply committed in such auction shall be (the greater of $20/MW-day or 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the resource is located)

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times the number of days in such Delivery Year; provided, however, that the Auction Credit Rate for Capacity Resources to the extent committed in the Base Residual Auction for the 2012-2013 Delivery Year shall be as determined under the provisions of this Attachment Q in effect at the time of such Base Residual Auction.

c. For any resource not previously committed for a Delivery Year that seeks to participate in an Incremental Auction, the Auction Credit Rate shall be (the greater of (i) 0.3 times the Net Cost of New Entry for the PJM Region for such Delivery Year, in MW-day or (ii) 0.24 times the Capacity Resource Clearing Price in the Base Residual Auction for such Delivery Year for the Locational Deliverability Area within which the resource is located or (iii) $20 per MW-day) times the number of days in such Delivery Year.

d. Subsequent to the posting of the results of an Incremental Auction, the Auction Credit Rate used for ongoing credit requirements for supply committed in such auction shall be (the greater of $20/MW-day or 0.2 times the Capacity Resource Clearing Price in such auction for the Locational Deliverability Area within which the resource is located, but no greater than the Auction Credit Rate previously established for such resource's participation in such Incremental Auction pursuant to subsection (c) above) times the number of days in such Delivery Year.

Additional Form of Unsecured Credit for RPM

In addition to other allowed forms of credit, "RPM Seller Credit" is also available to Market Sellers, but solely for purposes of satisfying RPM Auction Credit Requirements. If a supplier has a history of being a net seller into PJM markets, on average, over the past 12 months, then PJM will count as RPM Seller Credit twice the average of that participant's total net monthly PJM bills over the past 12 months. This unsecured credit is included in both the individual and affiliated family cap of $50 million on unsecured credit.

Credit Responsibility for Traded Panned RPM Capacity Resources

PJM may require that credit and financial responsibility for planned RPM Capacity Resources that are traded remain with the original party (which for these purposes, means the party bearing credit responsibility for the planned RPM Capacity Resource immediately prior to trade) unless the receiving party independently established consistent with the PJM credit policy, that it has sufficient credit with PJM and agrees by providing written notice to the PJM Treasury Department that it will fully assume the credit responsibility associated with the traded planned RPM Capacity Resource.

RPM credit in eCredit

In order to participate in the RPM auction, a Participant that will incur an RPM Credit Requirement must specifically allocate at least the required amount of credit to RPM using the eCredit application. In eCredit, the Participant allocates RPM credit at the account level. Each time a Participant logs into eCredit, the application queries the RPM database for the latest RPM credit requirements. When a Participant submits a new RPM credit allocation through eCredit, the system first queries the RPM database to make sure the RPM credit requirement has not

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increased above the new allocation before submitting the change to the eCredit and RPM databases. A nightly batch run synchronizes the RPM allocations and credit requirements in the eCredit and RPM databases. During this nightly synchronization, each account in the eCredit database is updated with the current RPM credit requirement from the RPM database, and the RPM database is updated with the current RPM credit allocation from the eCredit database. PJM credit personnel can also perform manual data synchronizations at any time through an administrative screen in eCredit.

Financial Transmission Rights

Participants that only self-schedule Auction Revenue Rights (ARRs) into FTRs in the annual auction each year will normally not need to establish credit for that activity; however, it is highly recommended that they discuss this issue with a PJM credit representative. Credit requirements explained here will only impact Participants actually bidding in the FTR auctions. Participants holding negatively-valued ARRs will incur a credit requirement for those ARRs. Since the value of ARRs changes over the course of the four-round annual FTR auction, PJM may wait until the end of the annual auction (when the ARR values are finalized) to issue a collateral call for those negative ARRs.

Establishing credit for FTR activity

Each Participant wishing to bid in any FTR Auction must establish ahead of time a credit limit specifically for its FTR activity at a level that is appropriate for the bidding it will undertake. That FTR credit limit is established by the Participant through the eCredit application as described later. Credit for participation in any of PJM's FTR Auctions must be supported by collateral (cash or letter of credit); unsecured credit is not available for FTR participation. Participants may provide new collateral at any time, and PJM will endeavor to make such credit available in eCredit as soon as possible, but Participants are advised against waiting until the auction begins, because PJM will not guarantee availability of credit after the auction begins.

A single FTR credit limit is established for each Participant account, and is used to cover the credit requirements arising from that Participant's total FTR activity, whether in or from an annual auction, a Long-term FTR auction, a Balance of Planning Period (BOPP) auction, or the subsequent year's Annual and/or BOPP auctions, to the extent that credit obligations overlap across years. After a Participant establishes credit with PJM, and PJM enters it into eCredit, the Participant may allocate portions of that credit to its accounts in eCredit.

FTR credit in eCredit

In eCredit, the Participant allocates FTR credit at the account level. When a Participant logs into eCredit, the application queries the FTR database for the latest FTR credit requirements. When a Participant submits a new FTR allocation through eCredit, the system first queries the FTR database to make sure the FTR credit requirement has not increased above the new allocation before submitting the change to the eCredit and FTR databases. A nightly batch run synchronizes the FTR allocations and credit requirements in the eCredit and FTR databases. During this nightly synchronization, each account in the eCredit database is updated with the current FTR credit requirement from the FTR database, and the FTR database is updated with

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the current FTR credit allocation from the eCredit database. PJM credit personnel can also perform manual data synchronizations at any time through an administrative screen in eCredit.

During the period after an FTR auction bidding window closes and before the auction results are scheduled to be posted, Participants may increase but may not decrease their FTR credit in eCredit. This lockout is lifted at 5:00 p.m. on the day the auction results are scheduled to be posted.

Calculating FTR credit requirements

All FTRs bid for, or purchased through, FTR Auctions have a credit requirement. The FTR Credit Requirement is calculated on a portfolio basis, allowing netting of cleared FTR requirements. In addition, negative ARR credits, once finalized after each annual auction, will cause a credit requirement for the Participant.

The credit requirement for a Participant's FTRs is calculated as follows: Step 1: a monthly historical value is calculated for each FTR path for which a bid is submitted. The value is a weighted average of the past three calendar years' prices (weighted 50% last year, 30% prior year, 20% two years prior). Step 2: The historical value is adjusted by 10% in order to provide some protection against year-to-year changes in value. The adjustment is a reduction for positive historical values and an increase in magnitude for negative historical values. Step 2a: For options only, a further adjustment is made as follows: if the option is a buy and the historical value is less than zero, it is set to zero; if the FTR is a sell and the historical value is greater than zero, it is set to zero. Step 3: the adjusted historical value of each FTR is subtracted from the total price for that FTR for each month. Step 4: [performed for FTRs bid on during an open auction but not after the auction is cleared] any individual monthly values less than zero are set to zero for that FTR. Step 5: all of the individual monthly values across all FTRs are added together within each month to come up with a monthly subtotal. Step 6: ARR dollar credits are subtracted from the credit requirement subtotal each month. Step 7: all of the individual positive monthly subtotals are added to form a credit requirement (negative monthly subtotals are discarded). Step 8: During the clearing process for each auction or auction round, a check is done for undiversified portfolios, and an additional credit requirement may be assessed; see Undiversified Credit Requirement below.

When bids are submitted into an auction, the credit requirement for the resulting portfolio (including all cleared FTRs and all FTRs previously submitted into the auction) is calculated. (Participants may submit bids in multiple groups during each auction or auction round.) If the credit requirement including the newly submitted bids exceeds the FTR credit available, then that set of bids is rejected, otherwise it is accepted into the auction. Note that if a set of bids is rejected, all bids in previously-accepted submittals are retained in the system because they had not caused the portfolio to exceed the FTR credit limit; only the current set of bids that would have caused the credit limit to be exceeded is rejected.

The calculations above are applied to bids using each bid's individual bid price since it is possible that each bid could clear at its respective price. A situation can arise, however, in

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which a participant submits multiple bids for the same FTR (same location and time) but at different prices. In this case, it impossible for all bids to clear at their respective bid prices since if the cleared price matches the highest bid, then only that one bid will clear, and if the cleared price matches the lowest bid, then all bids will clear, but at the same low price, not their individual bid prices. Prices in the middle will cause different combinations of bids to clear. At some cleared price is a point at which the maximum possible cleared credit requirement can occur. PJM's system recognizes these "stacked bids" and adjusts the bid credit requirement so that maximum possible cleared credit requirement that could occur is incorporated into the participant's bid credit requirement, not the amount that would be calculated by considering each FTR alone.

As each auction (or auction round for the annual auction) is completed, the credit requirement is recalculated to include only those FTRs that cleared the auction (FTRs that the Participant won) and to include the actual clearing price for those FTRs, rather than the bid price.

Undiversified FTR Credit Requirement

As each auction or auction round is cleared, PJM will undertake a diversification test of each participant's portfolio as follows: Step 1: PJM will calculate a tentative cleared solution for the auction or auction round. Step 2: For each month, PJM will calculate the net clearing cost (price * MW * hours) for each participant's total portfolio, including both previously cleared FTRs and the tentatively cleared FTRs. Step 3: For each company that has a net negative clearing cost in a given month, PJM will increment the FTR Credit Requirement for that month by an additional Undiversified Credit Requirement of either 2x the net negative clearing cost or 3x the net negative clearing cost as determined by the next step. Step 4: PJM will analyze each month with a net negative portfolio against a set of pre-posted planned system outages to see if the portfolio would be negatively impacted by any of the outages. If the portfolio would be negatively impacted, then the additional Undiversified Credit Requirement will be 3x the net negative clearing cost. If it would not have been negatively impacted, then the additional Undiversified Credit Requirement will be 2x the net negative clearing cost. Step 5: PJM will compare the resulting total credit requirement of each member against its FTR Credit Available. If the total FTR Credit Requirement exceeds the FTR Credit Available for any Participant, then PJM will issue a collateral call to each such Participant. If the collateral call is not satisfied within one business day, then all of the Participant's bids and offers into the auction are withdrawn and the auction clearing solution is rerun. Step 6: These steps may be repeated if needed in order to result in a cleared solution for which all participants have the required credit in place.

Long-term FTR credit recalculation

In conjunction with PJM's annual update of historical activity that is used in FTR credit requirement calculations, PJM will recalculate the credit requirement for long-term FTRs annually, and will adjust the Participant's credit requirement accordingly. This may result in collateral calls if requirements increase.

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Close-out and liquidation

If a participant holding FTR positions defaults at PJM, PJM may close-out and liquidate its FTR portfolio.

Release of FTR credit requirements

Credit requirements for FTRs are recalculated every month after the prior month's final invoice is calculated and the monthly values incorporated into the PJM credit system. Any FTR credit no longer needed may be released upon request by the Participants.

Unsecured Credit Allowance

Participants may ask for unsecured credit from PJM, which may or may not be granted as explained in this section.

Rated entities

PJM first uses published senior unsecured debt ratings by Standard and Poor's (S&P), Moody's Investors Service and Fitch Ratings when calculating unsecured credit. If no published senior unsecured rating exists, PJM considers other ratings in the following order to impute an equivalent senior unsecured rating.

1) The lower of:

    - One notch below the senior secured debt rating, if any, and
    - One notch above the preferred stock rating, if any, and
    - One notch below the corporate or issuer rating, if any, when there exists senior secured debt that (1) is rated higher than the corporate or issuer rating and/or (2) comprises a significant portion of the total debt

    Except that if the resultant implied rating is lower than the preferred stock rating, the preferred stock rating will be used instead

2) In the absence of any other usable rating, the corporate or issuer rating.
3) Other such rating as PJM, at its sole discretion, may deem equivalent to senior unsecured debt.

Note that this methodology is a guideline established to mirror the rating agencies' common practices; however, PJM will modify the guidelines as appropriate to reflect actual rating agency practices. For example, on August 3, 2009, Moody's issued a statement documenting its new policy to rate certain utility senior secured debt two notches above senior unsecured debt (rather than one notch). PJM may, therefore, notch down Moody's senior unsecured debt ratings for utilities by two notches rather than by one notch as is done for other agencies' senior secured ratings in step one below.

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Except as noted below (for a BBB-/CW- rating), if all ratings are investment grade (BBB- or above) but split between two or more ratings, PJM will use the average of the ratings. In the case of split ratings with no clear average, PJM will "round down".

However, if any rating is at BBB- and is on credit watch negative status (BBB-/CW-), then the used rating will not exceed BBB-/CW-, regardless of how high the ratings from other agencies may be.

If any of the three rating agencies rates the Participant's senior unsecured debt below BBB-, or if PJM's imputed equivalent senior unsecured rating for the Participant is below BBB-, then no unsecured credit will be granted to that Participant.

PJM will consider a published rating from one agency to take precedence over imputed ratings from other agencies, provided the actual agency ratings are not inconsistent.

> Example 1: All three agencies publish an issuer rating of BBB-/Baa3 for a company that has significant senior secured debt. Moody's also publishes a senior unsecured equivalent rating of Baa3, the same as the issuer rating. Absent Moody's published equivalent senior unsecured rating, PJM would normally impute a rating of BB+/Ba1, which is one notch down from the issuer rating. However, in this example, PJM would use Moody's equivalent senior unsecured rating of Baa3, because it is published, and the actual ratings of the other agencies (BBB- issuer rating) are consistent with Moody's own Baa3 issuer rating.
>
> Example 2: Same as above except S&P publishes an issuer rating of BB+. Even though Moody's publishes an equivalent senior unsecured debt rating of Baa3, the S&P issuer rating of BB+ is inconsistent with the Baa3 issuer rating of Moody's. PJM would impute a rating of BB from S&P, which would take precedence over the Baa3 published rating of Moody's.

Unsecured credit may be withdrawn or withheld if material adverse conditions exist, even if all ratings are still at or above BBB-.

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Ratings are converted to a credit score according to Table 3 below, with the Credit Watch (CW) scores added to or subtracted from the base score, if applicable.

Rated Entities Credit Scores

Rating	Score	CW-	CW+
AAA	100	-1.0	0.0
AA+	99	-1.0	0.0
AA	99	-1.0	0.0
AA-	98	-1.0	0.0
A+	97	-1.0	0.0
A	96	-2.0	0.0
A-	93	-3.0	1.0
BBB+	88	-4.0	2.0
BBB	78	-4.0	2.0
BBB-	65	-4.0	2.0
BB+ and below	0	0.0	0.0

Table 3

Unrated entities

Unrated entities may provide audited financials for PJM review. If the financials pass PJM review with a score of 51 or better, then some unsecured credit may be granted. PJM's credit scoring algorithm currently uses up to six financial factors and one non-financial factor to determine a credit score as shown in Table 4 below. The actual tables used in the scoring algorithm are included as Appendix 1.

Unrated Entities Credit Scores

Factor	Range of values	Score Range	Type
Interest Coverage Ratio	<-10 to >2.5	0 – 21	Multi-linear
Debt Service Coverage		Currently 0	
Total Debt to TNW[1]	<0 to >21	23 to 0	Linear
Total Debt to EBITDA[2]	<-8 to 0 to >9	0 to 14 to 0	Logarithmic
STD[3] to Capital		Currently 0	
Free Cash Flow to Total Debt	<-.4 to .4 to >2.0	0 to 6 to 13.5	Bilinear
Cooperative/Municipality	Yes/No	0, 10, 15	Individual

Table 4

The credit scoring algorithm may be updated as PJM deems appropriate including the addition or removal of individual factors.

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[1] tangible net worth
[2] earnings before interest, taxes, depreciation and amortization
[3] short-term debt

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Credit allowed

The Unsecured Credit Allowance is granted as a percent of tangible net worth (TNW). The tangible net worth factor is calculated as follows:

TNW% = 2.5% * (Score-40)/60, with a zero factor being applied to scores of 50 or below.

A dollar cap is placed on unsecured credit granted to any individual entity according to Table 5.

Unsecured Credit Caps

Credit Score	Tangible Net Worth Factor (%)	Maximum Unsecured Credit Allowance ($ million)
91-100	2.125 - 2.50%	50
81-90	1.708 - 2.083%	42
71-80	1.292-1.667%	33
61-70	0.875 - 1.25%	7
51-60	0.458 - 0.833%	0-2
50 and Under	0	0

Table 5

Affiliates

Affiliates may not receive more credit together than the overall corporate family can support. This may impact several different types of situations related to guaranties. A guarantor may not provide guaranties whose total exceed its own unsecured credit limit. An entity using unsecured credit on its own may not provide guaranties that, when added to its own Unsecured Credit would exceed its unsecured credit limit. A member or guarantor that is a parent of another member may have its allowed unsecured credit (and its potential to issue guaranties) reduced by unsecured credit granted separately to its subsidiaries.

In addition, no group of affiliates may receive more than $50 million of unsecured credit in total. PJM will work with affiliates to allocate their available unsecured credit in order to assure that the group of affiliates does not receive more than $50 million in unsecured credit.

Documentation

On an ongoing basis, all Participants receiving unsecured credit are required to provide PJM with their audited annual financial statements. Participants may indicate to PJM that financials are available on EDGAR (the Security and Exchange Commission's Electronic Data Gathering, Analysis and Retrieval system), in which case PJM will retrieve them directly.

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Material adverse conditions

PJM may reject or revoke unsecured credit for any Participant if a material adverse condition manifests itself. Such conditions may include a credit rating downgrade, being placed on credit watch status or other events. Additional examples are included in section I.A.3 of the Credit Policy.

Guaranties

Participants may provide a PJM-approved corporate guaranty from a creditworthy entity to establish credit with PJM. A guaranty is considered a transfer of unsecured credit, not a form of collateral or financial security, and the Participant utilizing the guaranty will be subject to all requirements imposed on a company with its own unsecured credit. If a Participant provides such a guaranty to PJM to support its credit, then PJM will perform the unsecured credit analysis on the guarantor instead of the Participant.

A domestic guarantor need not be an affiliate of the Participant.

Guaranties must be in PJM's standard form (available online), with an appropriate secretary's seal or other acceptable demonstration of authority. Any requested modifications to the form must be specifically approved by PJM counsel prior to acceptance. If there is a Material change in the financial condition of the Guarantor or if the Corporate Guaranty comes within 30 days of expiring without renewal, the Participant will be required to provide Financial Security as replacement.

Canadian and other foreign guaranties may be accepted under the following specific conditions.

Foreign Guaranties

PJM reserves the right to deny, reject, or terminate acceptance of any Foreign Guaranty at any time, including for material adverse circumstances or occurrences.

A Foreign Guaranty is a Corporate Guaranty that is provided by an Affiliate entity that is domiciled in a country other than the United States or Canada. The entity providing a Foreign Guaranty on behalf of a Participant is a Foreign Guarantor. A Participant may provide a Foreign Guaranty in satisfaction of part of its credit obligations or voluntary credit provision at PJM provided that all of the following conditions are met:

a. A Foreign Guaranty:

   i. Must contain provisions equivalent to those contained in PJM's standard form of Foreign Guaranty with any modifications subject to review and approval by PJM counsel.

   ii. Must be denominated in US currency.

   iii. Must be written and executed solely in English, including any duplicate originals.

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iv. Will not be accepted towards a Participant's Unsecured Credit Allowance for more than the following limits, depending on the Foreign Guarantor's credit rating:

Rating of Foreign Guarantor	Maximum Accepted Guaranty if Country Rating is AAA	Maximum Accepted Guaranty if Country Rating is AA+
A- and above	USD50,000,000	USD30,000,000
BBB+	USD30,000,000	USD20,000,000
BBB	USD10,000,000	USD10,000,000
BBB- or below	USD 0	USD 0

v. May not exceed 50% of the Participant total credit, if the Foreign Grantor is rated less than BBB+.

b. A Foreign Guarantor:

i. Must satisfy all provisions of the PJM Credit Policy applicable to domestic Guarantors.

ii. Must be an Affiliate of the Participant.

iii. Must maintain an agent for acceptance of service of process in the United States; such agent shall be situated in the Commonwealth of Pennsylvania, absent legal constraint.

iv. Must be rated by at least one Rating Agency acceptable to PJM; the credit strength of a Foreign Guarantor may not be determined based on an evaluation of its financials without an actual credit rating as well.

v. Must have a Senior Unsecured (or equivalent, in PJM's sole discretion) rating of BBB (one notch above BBB-) or greater by any and all agencies that provide rating coverage of the entity.

vi. Must provide financials in GAAP format or other format acceptable to PJM with clear representation of net worth, intangible assets, and any other information PJM may require in order to determine the entity's Unsecured Credit Allowance.

vii. Must provide a Secretary's Certificate certifying the adoption of Corporate Resolutions:

1. Authorizing and approving the Guaranty; and

2. Authorizing the Officers to execute and deliver the Guaranty on behalf of the Guarantor.

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viii. Must be domiciled in a country with a minimum long-term sovereign (or equivalent) rating of AA+/Aa1, with the following conditions:

1. Sovereign ratings must be available from at least two rating agencies acceptable to PJM (e.g. S&P, Moody's, Fitch, DBRS).

2. Each agency's sovereign rating for the domicile will be considered to be the lowest of: country ceiling, senior unsecured government debt, long-term foreign currency sovereign rating, long-term local currency sovereign rating, or other equivalent measures, at PJM's sole discretion.

3. Whether ratings are available from two or three agencies, the lowest of the two or three will be used.

ix. Must be domiciled in a country that recognizes and enforces judgments of US courts.

x. Must demonstrate financial commitment to activity in the United States as evidenced by one of the following:

1. American Depository Receipts (ADR) are traded on the New York Stock Exchange, American Stock Exchange, or NASDAQ.

2. Equity ownership worth over USD100,000,000 in the wholly-owned or majority owned subsidiaries in the United States.

xi. Must satisfy all other applicable provisions of the PJM Tariff and/or Operating Agreement, including this Credit Policy.

xii. Must pay for all expenses incurred by PJM related to reviewing and accepting a foreign guaranty beyond nominal in-house credit and legal review.

xiii. Must, at its own cost, provide PJM with independent legal opinion from an attorney/solicitor of PJM's choosing and licensed to practice law in the United States and/or Guarantor's domicile, in form and substance acceptable to PJM in its sole discretion, confirming the enforceability of the Foreign Guaranty, the Guarantor's legal authorization to grant the Guaranty, the conformance of the Guaranty, Guarantor, and Guarantor's domicile to all of these requirements, and such other matters as PJM may require in its sole discretion.

Canadian Guaranties

PJM reserves the right to deny, reject, or terminate acceptance of any Canadian Guaranty at any time for reasonable cause, including adverse material circumstances.

A Canadian Guaranty is a Corporate Guaranty that is provided by an Affiliate entity that is domiciled in Canada and satisfies all of the provisions below. The entity providing a Canadian

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Guaranty on behalf of a Participant is a Canadian Guarantor. A Participant may provide a Canadian Guaranty in satisfaction of part of its credit obligations or voluntary credit provision at PJM provided that all of the following conditions are met.

a. A Canadian Guaranty:

   i. Must contain provisions equivalent to those contained in PJM's standard form of Foreign Guaranty with any modifications subject to review and approval by PJM counsel.

   ii. Must be denominated in US currency.

   iii. Must be written and executed solely in English, including any duplicate originals.

b. A Canadian Guarantor:

   i. Must satisfy all provisions of the PJM Credit Policy applicable to domestic Guarantors.

   ii. Must be an Affiliate of the Participant.

   iii. Must maintain an agent for acceptance of service of process in the United States; such agent shall be situated in the Commonwealth of Pennsylvania, absent legal constraint.

   iv. Must be rated by at least one Rating Agency acceptable to PJM; the credit strength of a Canadian Guarantor may not be determined based on an evaluation of its financials without an actual credit rating as well.

   v. Must provide financials in GAAP format or other format acceptable to PJM with clear representation of net worth, intangible assets, and any other information PJM may require in order to determine the entity's Unsecured Credit Allowance.

   vi. Must satisfy all other applicable provisions of the PJM Tariff and/or Operating Agreement, including this Credit Policy.

Seller Credit

Seller Credit is a form of unsecured credit that is made available to Participants that are consistent net sellers in PJM's markets. The amount of the credit is the smaller of: (a) 60% of the 13th smallest weekly net sell invoice in the past 52 weeks, and (b) the Participant's current Net Sell Position at PJM. The credit is available only to participants that have had maintained a net sell position in every calendar month in the past 12 months. Participants may have individual weeks in which they owe PJM as long as the monthly totals each aggregate to net sell amounts.

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If Seller Credit is reduced, such that a Participant's collateral no longer meets its requirements (for example, when a given week becomes a net buy, so there is no longer a Total Net Sell Position), that Participant must provide replacement collateral within the standard two-day cure period. If Seller Credit is subsequently restored, then the collateral may be returned.

PJM may maintain a forecast of each Participant's Total Net Sell Position, and may require Financial Security if such forecast ever indicates that the Participant's Total Net Sell Position may in the future be less than the Participant's aggregate credit requirements at PJM, less any Financial Security or other sources of credit provided.

Seller Credit is included in the maximum $50 million unsecured credit cap for both individual entities and affiliated companies, and is not eligible for use in satisfying FTR credit requirements.

Secured Credit

Secured credit is accepted in two forms: letters of credit (L/C) and cash deposits. When a Participant withdraws from PJM, PJM will return the Participant's security in a phased manner, as it is no longer needed. PJM may hold some of the Participant's security as long as positions exist at PJM, and through the billing period that includes the 90th day following the withdrawal notice, in order to cover billing true-ups.

Letters of credit

L/Cs must be issued using PJM's standard form (available online). Any variations must be approved by PJM prior to acceptance. PJM highly recommends that any new L/C be sent to PJM in final but unexecuted form for review prior to issuance, so that PJM may review both the L/C and the bank for acceptability.

An L/C must be issued by a domestic financial institution ("bank") that is rated "A" (not "A-") or better by all agencies which rate it. A domestic branch of a foreign bank may also issue an acceptable L/C as long as the domestic branch itself has the requisite rating. PJM may accept a letter of credit from a bank that does not satisfy these requirements provided it is supported by a confirmation, in PJM's standard form, from a bank that does meet the requirements.

PJM does not accept letters of credit with an expiration date and without an evergreen clause, though the evergreen clause may have a notice of non-renewal provision. If an LC issuer properly provides PJM a notice of cancellation and the LC is not replaced before the earlier of 30 days prior to the cancellation date and 90 days after the notice of cancellation, the Participant will be in default.

Cash deposits

Cash collateral received by PJM is deposited into special interest-bearing deposit accounts separate from other PJM funds. Interest accrues daily, though funds received late in a day may not receive interest that day. Participants may work with PJM to establish a monthly return of

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interest to the Participant. Each Participant's cash deposit account is separate from other Participants' cash deposits. PJM must have all the proper Participant information (including tax identification number) to set up the account. Although collateral may satisfy the Participant's credit requirement when received, interest cannot accrue until the account is properly set up.

Other Items

Membership, Accounts, and Net Financial Settlement

Membership issues are discussed in other PJM documents, however, this section will address some of the credit-related aspects of membership. Note that members are not the same as accounts. Members may have multiple accounts, but each account is owned by only one member.

Every PJM member is a legal entity separate from every other PJM member. Many members are affiliated with other members, but they are all still separate legal entities with separate tax ID numbers. PJM considers each member as a stand-alone entity for credit purposes. There is no sharing of either credit or credit requirements between members, even if the members are affiliated (except through use of a corporate guaranty, which is addressed separately). Each member's invoice(s) must be settled separately from each other member's invoice(s). Netting of invoices between members, even affiliates, is not allowed.

An individual member may request that PJM establish multiple accounts/subaccounts for it so the member may segregate certain of its activities for its accounting convenience. While PJM generally accommodates these requests, each member is required to settle financially with PJM each billing period using a single net payment either to or from PJM. Multiple accounts owned by a member may not be settled with multiple payments.

Invoice Adjustments for Credit Requirement Calculations

Although credit requirements are generally calculated based on net invoice amounts, some billing line items (BLIs) on some invoices reflect amounts that are financially assigned between two PJM members (see "Billing Line Item (BLI) Transfers"). Their inclusion in credit calculations would result in credit requirements for some members lower than the actual legal exposure involved since the three-party setoff they sometimes create has been disallowed by the courts. There are generally three types of these billing adjustments for which PJM adjusts the credit requirements – those for specific market arrangements affecting multiple members for a long period of time (generally for FRR activities in new territories), those for specific BLIs transferred between two specific parties for a specified period of time ("BLI Transfers"), and those involving specific dollar amounts between two parties for a specified time period ("Misc. Bilateral Adjustments"). These adjustments are further described below.

It is important to note that the practices described herein are current practices only, and are performed as a service to accommodate requests by PJM members. PJM reserves the right to change or cancel, at any time, any of these provisions, accommodations and adjustments.

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FRR and Other Adjustments

Some Transmission Owners (especially in territories joining PJM after the RPM base residual auction for a given year has been held) have utilized an FRR plan to satisfy their capacity obligations. In some of these cases, certain FRR charges and credits flow through the PJM invoices even though those amounts are actually owed between the Transmission Owner and the capacity suppliers for the FRR plan, not to or from PJM. PJM therefore removes those charges and credits from the invoices prior to calculating credit requirements for the parties involved.

Miscellaneous Bilateral Adjustments

Some Participants occasionally request that PJM charge one Participant and credit another Participant a specific dollar amount on a given invoice. All such amounts are reversed for the purpose of credit calculations.

Billing Line Item (BLI) Transfers

Some Participants request that PJM move charges and/or credits in a specified BLI from one account to another. While PJM currently accommodates such financial transfer requests, all such amounts are reversed for the purpose of credit calculations.

Withholding of Payments

PJM may withhold payment to a Participant if the Participant is in default or has been declared in Breach of the Credit Policy, or if there is a collateral call outstanding.

Municipal Electric Systems – Special Trade Credit

Recognizing that municipal electric systems may, at times, face unique circumstances that could temporarily prevent their ability to make payments on a weekly bill when due, PJM may allow a municipal electric system to make arrangement with PJM whereby PJM would extend trade credit to the municipal electric system sufficient to enable it to make payment on a weekly bill provided that the following conditions are met:

a) PJM determines, in its sole discretion, that it has sufficient excess working capital available to complete financial settlement with other market participants;

b) the municipal electric system reimburses PJM for the actual cost of such working capital;

c) the municipal electric system provides PJM with a binding representation that it has all legal right and authority to enter into the arrangement with PJM;

d) PJM will continue to issue weekly bills to the municipal electric system and the municipal electric system will make payment as due under the weekly bills using the proceeds it obtains under its arrangement with PJM. Reimbursement of these amounts,

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including PJM's actual costs of working capital, shall be due from the municipal electric system at the time payment is due for the invoice issued;

e) the aggregate of all financed amounts and accrued obligations shall not exceed the Working Credit Limit available to the municipal electric system;

f) the municipal electric system provides PJM with at least one week of notice (though PJM may waive this provision); and

g) the accumulated duration of such postponed payments shall not exceed three months in a rolling twelve-month period.

PJM may terminate this payment option at any time it determines its excess working capital is no longer sufficient to allow further or continued extension financing. In such cases, PJM shall attempt to give five business days, but not less than three business days' notice to the affected municipal electric system, and may call for immediate reimbursement of any outstanding amounts owed by the municipal electric system.

Default Allocation

Although allocation of a default is not a credit requirement, questions about default are often asked in conjunction with other credit questions, so it will be described here briefly. Default allocation is addressed in section 15.2 of the Operating Agreement on sheets 50-51.

If there is a payment default by a Participant, two events may take place.

1. First, in the payment cycle in which the default occurs, recipients of payments from PJM that month may be "short paid" by the total amount of the default. In event of a short pay, each Participant individually is short paid in direct proportion to its share of payments otherwise scheduled to be received.

2. Second, after any collateral has been considered, the membership of PJM may be billed the total amount of the remaining default according to the default allocation assessment described in section 15.2 of the Operating Agreement and summarized below. Participants who were short-paid at the time of default are likewise credited with the payment shortfall from that month.

Default allocation assessment

The actual default allocation assessment is calculated as follows:

Per-capita assessment

Ten percent of the default is allocated to the membership on a per-capita basis to those entities that are members as of 5:00 p.m. on the date the default is declared.

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For example, if there were 500 members on January 19, 2010*, then each one would receive 1/500 of 10 percent, or 0.02 percent of a default by another member on a December 2009 month-end invoice. Because certain special memberships and certain municipalities may be exempt from the default allocation, the applicable membership count may be slightly smaller than that posted on membership lists.

* The month-end December 2009 invoice was due on January 15, 2010 (along with the invoice for the first six days of 2010), and would be declared a default if not paid two business days later, January 19, 2010.

Every non-exempt member regardless of voting privileges or affiliation receives a per-capita assessment.

For example, a family of affiliated companies that has one voting member plus another four affiliates that are each PJM members would receive five individual per-capita assessments.

Per-capita assessments are capped at $10,000 per individual member per calendar year, with any excess being re-allocated using the gross activity allocation method below. Calendar years are measured according to the months of activity for which a default occurred. For example, if a participant failed to pay its December 2009 month-end bill when due on January 15, 2010, that default would be counted as a 2009 default, not a 2010 default, since the activity occurred in 2009.

Activity assessment

Ninety percent of the default is allocated according to each member's gross PJM activity over the past three full months.

For example, a default on the January 15, 2010 payment for December activity would use October through December bills for measuring member activity. Gross activity each month for this purpose is measured by taking the absolute values of every charge and every credit on that month's bill. Values are taken after same-month adjustments are made. Prior month adjustments on any given bill are not included in the calculation.

Default allocation assessment example

- Member A has one line item on its bill: a $500,000 credit for selling into the market.
- Member B has one line item on its bill: a $500,000 charge for buying from the market.
- Member C has two line items on its bill: a $500,000 day-ahead spot market credit for selling into the market and a $500,000 balancing spot market charge for buying from the market.

Members A and B would receive the same default allocation assessment. Member C would receive twice the Activity Assessment of either A or B, even though its net bill is zero, because it

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engaged in twice the activity of the other two members. The Per-capita Assessment would be the same for each.

Recoveries

Net recoveries will be reimbursed to Participants in proportion to their original assessment.

Bilateral indemnification

Although not part of the credit policy document itself, this issue is relevant to credit discussions and so is included here. On December 2, 2008, PJM filed with the FERC a request to change portions of the Operating Agreement to clarify that bilateral transactions, including Internal Bilateral Transactions (IBT), which are effectively a notification to PJM of an external bilateral between two parties, are considered non-pool transactions, and the parties to the transaction will indemnify PJM for performance under the transaction. For example, in an IBT, PJM is performing a service to the parties through recognizing the sale and subsequent transfer of title to the energy involved, which results in an invoice credit to the buyer and a debit to the seller. If, however, a seller in a bilateral defaults on an invoice payment obligation to PJM, then the buyer must indemnify PJM for the value it had been credited for the bilateral. PJM may either remove the credit related to that transaction from the invoice payment due the buyer, or invoice the buyer subsequently for the dollar amount involved. Please see the relevant Tariff or Operating Agreement section for determining whether the seller or buyer indemnifies PJM against default by the counterparty in the bilateral.

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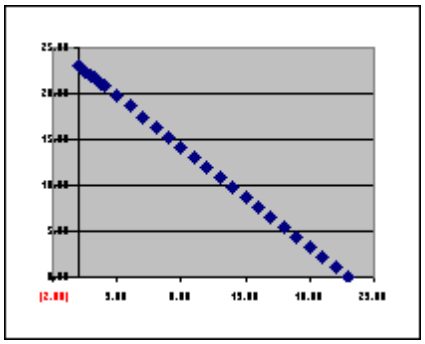
Appendix 1: Credit Scoring Algorithm for Unrated Entities

The PJM credit scoring algorithm for unrated entities currently uses four separate financial ratios and one non-financial metric to calculate a credit score. The PJM credit scoring algorithm may be modified by PJM at any time to reflect recalibration analysis, new credit metrics, or other relevant changes as PJM deem appropriate.

Debt/Equity Ratio



TblTotalDebtToTNW

Ratio	Score
(99,999,999.00)	0.00
0.00	23.00
0.50	22.45
1.00	21.90
1.20	21.68
1.40	21.46
1.60	21.24
1.80	21.02
2.00	20.80
3.00	19.70
4.00	18.60
5.00	17.50
6.00	16.40
7.00	15.30
8.00	14.20
9.00	13.10
10.00	12.00
11.00	10.90
12.00	9.80
13.00	8.70
14.00	7.60
15.00	6.50
16.00	5.40
17.00	4.30
18.00	3.20
19.00	2.10
20.00	1.00
21.00	0.00

= Total debt (on and off balance sheet) / TNW

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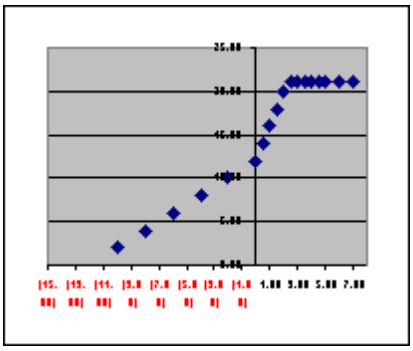
Interest Coverage Ratio

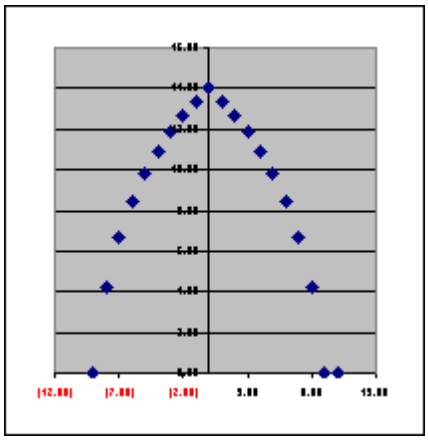


TblInterestCoverage

Ratio	Score
(99,999.00)	0.00
(10.00)	2.00
(8.00)	4.00
(6.00)	6.00
(4.00)	8.00
(2.00)	10.00
0.00	12.00
0.50	14.00
1.00	16.00
1.50	18.00
2.00	20.00
2.50	21.00
3.00	21.00
3.50	21.00
4.00	21.00
4.50	21.00
5.00	21.00
6.00	21.00
7.00	21.00

=EBIT(Earnings before interest, taxes & rent)/(interest + rent)

Earnings Coverage Ratio



TblTotalDebtToEBITDA

Ratio	Score
(999.00)	0.00
(10.00)	0.00
(9.00)	0.00
(8.00)	4.21
(7.00)	6.68
(6.00)	8.43
(5.00)	9.79
(4.00)	10.89
(3.00)	11.83
(2.00)	12.64
(1.00)	13.36
0.00	14.00
1.00	13.36
2.00	12.64
3.00	11.83
4.00	10.89
5.00	9.79
6.00	8.43

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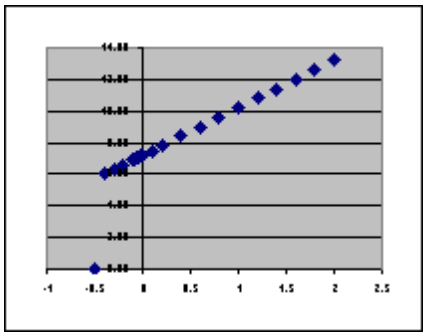
7.00	6.68
8.00	4.21
9.00	0.00
10.00	0.00

=Total debt (on and off balance sheet) / EBITDA (EBIT above + depr & amort)

Cash Flow Coverage Ratio



TblFreeCashFlowToTotalDebt

Ratio	Score
-10000000	0.00
-0.50	0.00
-0.40	6.00
-0.30	6.30
-0.20	6.60
-0.10	6.90
-0.08	6.96
-0.06	7.02
-0.04	7.08
-0.02	7.14
0.00	7.20
0.10	7.50
0.20	7.80
0.40	8.40
0.60	9.00
0.80	9.60
1.00	10.20
1.20	10.80
1.40	11.40
1.60	12.00
1.80	12.60
2.00	13.20

=Free Cash Flow (net income + depr&amort+ changes in WC - capital exp - dividends) / Total debt

Municipalities and Cooperatives

Muni or Coop	Score
Municipality	15
Cooperative	10

Municipal or Government-Controlled Entity
Cooperative

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Appendix 2: UTC Credit Requirement Example

The table below shows examples of the UTC calculation requirements for two paths. A Bid transaction will be considered counterflow if either the Bid Price or the Prior Month Mean DA Price is negative. A Cleared transaction will be considered counterflow if the Cleared Price is negative.

Files with "Path Reference Prices for Up-to Congestion Bid Screening" are posted at the bottom of PJM's Day-Ahead Energy Market web page (below the "Nodal Reference Prices for Inc Offer and Dec Bid Screening" files. The link is at:
http://www.pjm.com/markets-and-operations/energy/day-ahead.aspx

UTC Credit Requirement Example

SourceName	SinkName	Bid or Cleared	Price	MW	Prior Month Mean DA Price	Prevailing or Counterflow	Up-to Congestion Reference Price	Credit Requirement
HALIFXDP TX1	BYRON 1	Bid	3.00	1	(55.69)	Counterflow	(72.53)	75.53
IRONWOOD	GRAND POINT	Bid	2.00	1	2.25	Prevailing	0.72	1.28
IRONWOOD	GRAND POINT	Bid	0.00	1	2.25	Prevailing	0.72	(0.72)
IRONWOOD	GRAND POINT	Bid	(1.00)	1	2.25	Counterflow	0.45	(1.45)
HALIFXDP TX1	BYRON 1	Bid	(3.00)	1	(55.69)	Counterflow	(72.53)	69.53
HALIFXDP TX1	BYRON 1	Cleared	1.00	1	N/A	Prevailing	(24.91)	25.91
IRONWOOD	GRAND POINT	Cleared	0.00	1	N/A	Prevailing	0.72	(0.72)
HALIFXDP TX1	BYRON 1	Cleared	(1.00)	1	N/A	Counterflow	(206.05)	205.05
IRONWOOD	GRAND POINT	Cleared	(3.00)	1	N/A	Counterflow	(2.06)	(0.94)
		Total Credit Requirement (sum of all positive individual requirements)						377.30

HALIFXDP TX1 BYRON 1

UTC Reference Price	
P05	(206.05)
P20	(72.53)
P30	(24.91)
DA	(55.69)

IRONWOOD GRAND POINT

UTC Reference Price	
P05	(2.06)
P20	0.45
P30	0.72
DA	2.25

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