BPA Policy 231-2

Power Transacting Risk Management

Compliance, Audit and Risk

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1.1 Purpose & Background

This chapter establishes the Bonneville Power Administration's (BPA or the Agency) Policy for managing Energy Commodity-Related Transaction and credit risk systematically across the Agency.

The primary objective of this Risk Management Policy is to ensure that all Energy Commodity-Related Transactions executed by the Power Services organization, or its successor, (including all exercises or waivers of rights under energy commodity-related contracts) are entered into with full knowledge and understanding of the significant risks associated with the execution of the terms and conditions of the transactions, and are consistent with the risk tolerance of the Agency. This Policy lays out the structure of limits, controls, processes, and procedures designed to deliver on this overarching objective.

BPA enters into Energy Commodity-Related Transactions to manage, in accordance with defined risk tolerances, the portfolio balance between generation, customer loads, and existing transaction commitments and to market power that is surplus to earn secondary revenues. The goal of this energy commodity-related transaction activity is to ensure reliable service to firm loads, meet fish mitigation and other non-power obligations, dispose of secondary energy on an economically efficient basis and manage, within acceptable bounds, the inherent risks and range of financial outcomes that the Agency faces. Transaction activity is monitored and controlled through quantitative and qualitative limits described in this Policy.

This Policy applies to all Energy Commodity-Related Transactions executed by the Power Services organization, or its successor, (including, except as otherwise provided herein, the initial entry into the transaction, and amendments, settlements and terminations) including but not limited to those transactions specified in Section 3A, but excluding transactions specified in Section 3B.

This Policy supersedes all existing or prior Power Transacting Risk Management-related policies, or parts of policies, that address the activities encompassed by this Policy. The requirements of this Policy are in addition to and do not supersede any requirements defined in other official BPA policies.

1.2 Policy Owner

The Executive Vice President of Compliance, Audit and Risk working through the Chief Risk Officer or his/her designee has overall responsibility for monitoring, reporting, deploying, evaluating, and proposing revisions to this policy. The Senior Vice President for Power Services has primary responsibility for execution of this policy.

1.3 Applicability

This policy applies to all energy commodity-related transactions executed by the Power Services organization or its successor, (including, except as otherwise provided herein, the initial entry into the transaction and amendments, settlements and terminations) including but not limited to those transactions specified in section 231-2.3 A, but excluding transactions specified in section 231-2.3 B.

This policy prohibits speculation in, by, or through energy commodity-related transactions.

This policy prohibits the use of strategies designed to manipulate indices or reported volumes to third parties in order to increase the value of index-priced transactions or give the appearance of larger transacting volumes than are needed to manage approved strategies. For example, the transacting of Wash Trades or Round-Trip trades for the purpose of manipulating volumes, revenues, and price indexes used in BPA contract settlement is prohibited.

This policy supersedes all existing or prior Power Transacting Risk Management-related policies, or parts of policies, that address the activities encompassed by this policy. The requirements of this policy are in addition to and do not supersede any requirements defined in other official BPA policies.

A. **Transactions covered by this policy**: This policy applies to the following transactions (including the initial entry into the transaction, amendments, settlements and terminations):

1. Energy Commodity-Related Transactions
2. Slice contracts
3. Energy sales, purchases, and exchanges with Preference Customers, other than for their requirements
4. Contracts with Preference Customers that are for their requirements that include embedded energy commodity-related transactions
5. Amendments and exhibit revisions and rate mitigation products under non-Slice requirements contracts with Preference Customers
6. Direct Service Industry (DSI) power sales contracts
7. Scheduling activities
8. Environmentally Preferred Power (EPP), Renewable Energy Credits (REC), and Green Energy Premium transactions
9. Voluntary water agreements with other parties entered into for commercial reasons
10. Energy and capacity agreements and reserve services marketing and trading not under the priority-firm rate
11. Short- and long-term market purchases and sales of capacity or energy, and exchanges of capacity/and or energy
12. Purchases of output from generating resources
13. Columbia River non-Treaty hydro agreements

14. Reselling or reassignment of Power Services' transmission rights
15. Any program policies that establish general principles for the foregoing transactions

B. **Transactions not covered by this policy:**

1. Regional Dialogue load following contracts (and amendments thereto) with Preference Customers for their net requirements under the priority-firm rate
2. Sales, purchases, and related transaction of transmission rights on the Federal Columbia River Transmission System (FCRTS) done by Transmission Service pursuant to their Open Access Transmission Tariff (OATT)
3. Energy and capacity agreements between BPA Power and BPA Transmission Services
4. Energy efficiency agreements
5. Residential Exchange agreements
6. U.S. Army Corps of Engineers and Bureau of Reclamation arrangements
7. Fish and wildlife arrangements
8. Court ordered settlements
9. Transactions or operations that are performed by BPA to respond to an emergency
10. Procurements under the BPI
11. Columbia River Treaty activities
12. Government-mandated actions (e.g. courts, Presidential Executive Order, DOE order, etc.)

1.4 Terms & Definitions

A. **Agency Decision Framework (ADF)**: The procedure to be followed when making decisions concerning transactions that will bind BPA. The ADF is a scalable approach to identifying a proposed action and presenting the justification for approval.

B. **Back Office**: Includes the groups that have functional responsibility for financial accounting and reporting, treasury and cash management, auditing, contract administration and billing, and after-the-fact settlement for energy commodity-related transactions. At BPA these functions are located within different parts of the agency.

C. **Credit risk**: The risk of financial loss if counterparty to a transaction does not fulfill its contractual obligations in a timely manner. Credit risk is comprised of two components. Payment Risk exposure is the amount owed for goods and services delivered/provided by BPA under the terms of a transaction. Market Risk exposure is the difference between the contract price and the current market value of an existing contract.

D. **Derivatives clearing organization**: A derivatives clearing organization (DCO) is a clearinghouse, clearing association, clearing corporation, or similar entity that enables each party to an agreement, contract, or transaction to substitute, through novation or otherwise, the credit of the DCO for the credit of the parties; arranges or provides, on a multilateral basis, for the settlement or netting of obligations; or otherwise provides clearing services or arrangements that mutualize or transfer credit risk among participants.

E. **Emergency**: Any abnormal system condition which requires immediate manual or automatic action to prevent loss of load, equipment damage, tripping of system elements or any other consequence that could threaten BPA's ability to meet minimum operating reliability criteria or environmental requirements.

F. **Energy commodity-related transaction**: A transaction (i) for the purchase, sale, assignment, or exchange of any energy commodity, (ii) tied to the purchase, sale, assignment, or exchange of any energy commodity

G. **Exchange Traded Transaction:** An Energy Commodity Related Transaction executed on a central marketplace with established rules and regulations where the exchange (e.g. the Intercontinental Exchange) acts as a clearing organization to all related transactions, and establishes and maintains margin requirements collected as guarantee from both parties in the transaction.

H. **Front Office**: Includes the groups that have functional responsibility and delegated authority for directing, organizing, executing, amending, terminating, settling, and interpreting contracts in connection with energy commodity-related transactions. The Front Office includes the Trading Floor and Account Executives that have the authority to sign umbrella agreements and enter into energy service contracts.

I. **Futures commission merchant (FCM):** A futures commission merchant, solicits or accepts orders for futures or options contracts traded on or subject to the rules of an exchange; and in or in connection with such solicitation or acceptance of orders, accepts money, securities, or property (or extends credit in lieu thereof) to margin, guarantee, or secure any trades or contracts that result or may result.

J. **Hedging**: Use of energy commodity-related transactions to limit or reduce the likelihood of financial loss due to fluctuations in market conditions. For BPA, this typically involves buying or selling physical or financial energy commodity products to offset short or long inventory positions.

K. **Market risk**: The risk of financial loss due to changes in market conditions.

L. **Middle Office**: Includes the groups that have functional responsibility to independently monitor and report the risk taking and risk management activities of BPA. This includes market and credit risk associated with energy transactions. The Middle Office assesses the effectiveness of the BPA's system of controls over market, credit, and operational risk, including energy commodity-related transaction processing systems.

M. **Model risk**: A component of operational risk, model risk is the risk of financial loss due to inaccurate or incomplete characterization of transaction or portfolio value due to fundamental deficiencies in the model(s) being used to perform portfolio valuations, forecast inventory positions, and forecast market prices, etc.

N. **Operational risk**: The risk of direct or indirect financial loss resulting from inadequate or failed internal processes, human error or malfeasance, IT system shortcomings, etc.

O. **Speculation:** The process of entering into transactions with high risk in order to take financial advantage of an anticipated price movement irrespective of inventory positions.

P. **Standard transaction**: An energy commodity-related transaction whose attributes conform to the restrictions described in **Appendix B – Standard Products**.

Q. **Swaption**: The option to enter into a financial (power) swap. In exchange for an option premium, the buyer gains the right but not the obligation to enter into a specified swap agreement with the issuer on a specified future date.

R. **Water agreements for commercial purposes**: A voluntary transaction with a third party that involves the movement, storage, and/or release of water in exchange for money, power, energy, capacity or other water operations.

1.5 Policy

BPA will ensure that all energy commodity-related transactions executed by the Power Services organization, or its successor, (including all exercises or waivers of rights under energy commodity-related contracts) are entered into with full knowledge and understanding of the significant risks associated with the execution of the terms and conditions of the transactions, and are consistent with the risk tolerance of BPA. This policy lays out the structure of limits, controls, processes, and procedures designed to deliver on this overarching objective.

BPA enters into energy commodity-related transactions to manage, in accordance with defined risk tolerances, the portfolio balance between generation, customer loads, and existing transaction commitments and to market power that is surplus to earn secondary revenues. The goal of this energy commodity-related transaction activity is to ensure reliable service to firm loads, meet fish mitigation and other non-power obligations, dispose of secondary energy on an economically efficient basis and manage, within acceptable bounds, the inherent risks and range of financial outcomes that BPA faces. Transaction activity is monitored and controlled through quantitative and qualitative limits described in this policy.

1.6 Policy Exceptions

The Risk Oversight Committee (ROC) has the authority to approve individual exemptions to the requirements of this policy (see explanation below).

1.7 Responsibilities

Functional separation of duties is a foundational element of an effective risk management program. BPA has chosen to implement a power transacting risk management organizational structure that includes a Front, Middle, and Back Office. The Front Office is responsible for developing, pricing, and transacting in energy commodity-related products. Between deal execution and deal settlement, the Middle Office, or Risk Management Function, is responsible for analyzing the transactions executed by the Front Office to ensure they comply with risk limits, determining market value of the contracts, imposing credit risk control, and assessing financial performance and risk. The Back Office is responsible for contract administration, deal confirmation, settlement, and billing and collection once contract terms have been fulfilled. The Back Office also is responsible for Tresury activities and financial accounting and reporting.

A. **Audit Compliance & Governance Committee (ACGC):** The ACGC is a senior management forum to obtain assurance about effective internal control and compliance over BPA objectives. This committee is responsible for establishing risk tolerance levels for BPA commercial transacting risks and provides guidance to the ROC in the development of relevant risk programs and policies.

B. **Risk Oversight Committee (ROC):** The ROC is a senior management level committee that has responsibility for ensuring that risk management monitoring systems and limits are in place to govern commercial transacting risks across BPA, within the prameters established by the ACGC.

C. **Front Office**: The Front Office has the authority to transact to manage commercial and operational objectives and risks. It is composed of individuals who transact, deliver, or directly support transacting and delivery activities on behalf of BPA. The Front Office:

1. Submits all transaction activity to the system of record by the end of the day (e.g. trade tickets, contracts) to the Back Office for independent review and verification.
2. Ensures that transactions do not violate any risk limits described in this policy.
3. Ensures that counterparties have adequate available credit to accommodate all transactions.
4. Reaches consensus with the Middle Office on models for use in structured transaction evaluations and forwards price curve methodologies as well as price volatility forecasting.
5. Provides inventory forecasts for scenario and stress analysis and portfolio position and financial analysis.
6. Approves changes and modifications to official inventory forecast methodologies and receives approval from the ROC of significant changes.

7. Ensures that contracts meet all Contract Administration, Risk Management, Finance and Accounting, and General Counsel requirements before being offered for signature to customers.

8. Reviews daily position tracking system reports for inconsistencies and checks out with Risk Management at end of day.

9. Maintains counterparty information in the official system of record.

D. **Middle Office:** The Middle Office, or Risk Management, is headed by the Manager of Transacting and Credit Risk Management, who reports to the Chief Risk Officer of BPA, neither of whom report to any person(s) having direct execution responsibilities for risk-taking or risk-mitigating activities in this policy. The Middle Office:

1. Reviews all transactions with the Front and Back Office to independently review and verify transactions entered into the system of record for that day.

2. Reviews all transactions for compliance with this policy.

3. Independently monitors and reports the risk taking and risk management activities of the Front Office organization to Front Office Management, the Chief Risk Officer of BPA, and the ROC.

4. Develops and maintains official BPA forward curves for futures, forward transactions, and volatilities.

5. Assesses the effectiveness of the organization's system of controls over market, credit, and operational risk, including transaction processing systems.

6. Develops and submits for ROC approval appropriate risk measurement methodologies for credit, market, and operational risks.

7. Designs, performs, and documents stress and/or scenario tests of the outstanding portfolio of open positions on an individual and combined basis for significant and unusual market price changes or events in order to determine the potential impact on cash flows, hedge effectiveness, and/or net revenues.

8. Participates in the development and maintenance of software and analytic model quality assurance procedures, especially in regards to the Trade Management System, in coordination with other groups.

9. Notwithstanding anything else in the policy, if in the judgment of the CRO the transactions or strategies undertaken by Power Services are exposing BPA to an inappropriate level of risk, the Chief Risk Officer informs the relevant committees – including but not limited to the ROC, ACGC, PMC, and/or the Administrator.

E. **Credit Risk Management:** Responsible for credit analysis and approval of new and existing counterparties associated with BPA's power, procurement, and transmission activities. Credit Risk Management also provides credit management and analysis functions for other BPA business processes as directed by the ROC. The Credit Risk Management group:

1. Screens and processes all counterparties for credit approval.
2. Monitors on an ongoing basis the creditworthiness of all approved counterparties.
3. Performs financial analysis and related assessments to develop proposed corporate level counterparty credit limits in accordance with approved credit risk management policies.
4. Monitors the total credit exposure of individual counterparties, and prepares and issues all credit risk management reports.
5. Coordinates the maintenance, distribution and/or review of the Approved Counterparty Lists, Credit Exposure Reports, and related information.
6. Administers the counterparty credit functions of online trading platforms.
7. Assists in the review and processing of master and enabling agreements associated with trading activities for credit related issues.
8. Negotiates, processes, and tracks corporate guarantees and letters of credit in tandem with General Counsel and the Back Office.
9. Consults with marketers and Market Analysis and Pricing in regards to credit implications of proposed transactions.

F. **Back Office:** The groups that comprise the Back Office are responsible for the proper and timely capture, reporting, administration, and processing of energy commodity-related transactions and contracts covered by this policy. The Back Office:

1. Reviews all transactions with the Front and Middle Office to independently verify transactions entered into the system of record for that day.
2. Establishes and oversees agency customer contract governance policies, internal controls, rules, procedures, and standards for commercial business.
3. Establishes, operates, and maintains agency metering and customer billing, revenue forecasting, and settlements.
4. Reviews, records, and discloses contracts appropriately in the FCRPS and BPA external and internal financial statement reports in accordance with applicable fair-value and derivative accounting guidance.
5. Generates daily transaction activity summaries and validates with trading supervisory staff that the summary of activities is accurate and complete in accordance with established end-of-day procedures.
6. Performs data steward responsibilities for the agency trade management system.

7. Directs financial planning and investment of funds for BPA and exercises authority for receipt, disbursement, banking, custody of funds, and financial instrument settlement and margin management activities, as required.
8. Reviews new and existing contracts for any operational conflicts with Schedule Planning and ensures Pricing and Analysis has priced such provisions.
9. Files a letter designating the personnel who are authorized to transact business on behalf of BPA with each approved counterparty and communicates changes as necessary.
10. Tracks corporate guarantees and letters of credit in tandem with the Middle Office.

G. **Other functional area responsibilities:**

1. **Internal Audit:** coordinates with the ROC to perform periodic risk-based audits, assessments, and tests of transactions and the transacting processes.
2. **General Counsel:** reviews contracts as they are being developed and negotiated including master/enabling agreements, credit enhancement agreements, and non-Trading Floor marketing contracts.
3. **Information Technology:** manages software, hardware, and telecommunications systems. IT establishes and maintains effective standards and procedures for existing and new software system development and maintenance.

H. **Control of commercially significant software and analytic models**: Quality control procedures for software and analytic model development are maintained by:

a. IT as they apply to databases.
b. The Transaction and Credit Risk Manager as they pertain to market risk.
c. The Lead Credit Analyst, as they apply to credit risk.
d. The Manager of Operations Planning, as they apply to hydrological modeling.
e. Organizational managers are responsible for communicating and receiving confirmation from the ROC on material changes to models that affect Limits in accordance with Model Change Procedures described below in section 2.9.A.12.

1.8 Standards & Procedures

A. **Transaction approval**: This Policy distinguishes the approval process for transactions in two categories: Standard Transactions, which do not require ROC approval prior to execution; and Non-Standard Transactions (any transaction that is not a Standard Transaction), which require ROC review and approval prior to execution. Under no circumstances may a transacting organization piece together multiple Standard Transactions for the specific purpose of avoiding review by the ROC. If the CRO has a reasonable belief that such action has occurred or will occur, the CRO will report the matter immediately to the ROC and the ACGC with a copy to the management of the transacting organization involved. The transacting organization will be required to explain the purpose of the transactions in question to both committees in writing within five business days of receipt of notice.

1. **Standard transactions**: The Front Office is authorized to execute Energy Related Commodity Transactions that are Standard Transactions without any ROC review, subject to limits set forth below:
   a. Any transaction intended to affect BPA's Tier 2 rate requires additional ROC review.
   b. Any transactions submitted to an exchange to be cleared must be done in accordance with Appendix A- Exchange Trade Transactions
   c. Any Energy Commodity Related Transaction with a delivery pattern that is not specified in Appendix B – Standard Products (for example: a delivery pattern that crosses a monthly boundary), but otherwise contains all the attributes of a Standard Transaction will be considered a Standard Transaction if the transaction term is not greater than three months and the last hour of physical delivery is not greater than four months from the date of the transaction.

Where there is any uncertainty, as to whether a contemplated transaction is a Standard Transaction, the originator or his/her management must consult with the Transacting and Credit Risk Manager and Trading Floor Manager for resolution. If these parties cannot agree, then the issue will be referred to the Senior Vice President of Power Services and the Chief Risk Officer (CRO). If these parties fail to reach agreement, then the matter will be referred to the ROC for final resolution.

2. **Non-Standard Transactions**
   a. ROC review

   When the Front Office proposes a transaction that is not a Standard Transaction (Non-Standard Transaction); the transaction must be submitted to the ROC for review and approval prior to execution as described in Appendix D-Non-Standard Transaction and Hedging Strategy Approval Process. The Middle Office will work with the transaction originator to ensure that any specified requirements and standards then in effect for presentation of proposals to the ROC are met. If the Front Office and the Transacting and Credit Risk Manager disagree on whether the proposal is ready for ROC review, the issue will be appealed to the Chair of the ROC. If the Chair of the ROC concludes that the proposal is not ready for ROC consideration, the Front Office manager may present an appeal to the ROC for consideration. The ROC will either accept the transaction for review or determine that proper review requires additional approvals, analysis, and/or documentation. After review, the ROC may approve, disapprove, or impose conditions of approval on the transaction. Other organizations will provide necessary support for the review of a proposed Non-Standard Transaction, as defined in Appendix D-Non-

Standard Transaction and Hedging Strategy Approval Process. Failure to provide timely responses once provided appropriate documentation will be communicated by the CRO to the ROC.

b. Separate Management Committee Review

The ROC may determine that a proposed transaction has specific attributes, issues, or risks that are deemed significant but are beyond the scope of review for the ROC. If so, the CRO will communicate these attributes, issues, or risks to the appropriate management committee. The CRO will ensure that sufficient analysis and documentation are provided to the management committee to make a risk informed decision on the appropriateness of any proposed transaction. While the Front Office will determine when the proposal is ready for presentation, the CRO will verify that appropriate analysis and documentation consistent with the requirements of the ADF have been developed for the proposed Non-Standard Transactions. The CRO will inform the management committee of any deficiencies in the analysis and documentation provided for the proposed transaction.

3. **Transactions or Operations in an Emergency**

Nothing in this Policy will or is intended to limit, condition, or restrict transactions or operations that are effected by BPA to respond to an Emergency and the need to restore or assure continuous reliable system operations. Any otherwise applicable limitations in this Policy are suspended during an Emergency.

4. **Alternative Non-Standard Transaction Approval Process**

For Non-Standard Transactions that meet the criteria below, the CRO has the authority to approve such transactions without prior ROC review. The CRO, at his or her discretion, may consult with one or more ROC members before making a decision. The CRO may approve a Non-Standard Transaction if it meets all of the following criteria:

- the duration is one year or less;
- the notional volume is 50 average annual megawatts or less over the term and no more than 74,500 megawatt hours in any one month; and,
- the notional value is $10 million or less (if the transaction is any kind of exchange, the total notional value of both sides of the transaction, what BPA is delivering and what BPA is receiving, is $20 million or less).

If the CRO declines to employ this alternative Non-Standard Transaction review process, the decision may be appealed to the Senior Vice President of Power Services and the Deputy Administrator. If they determine that the value and immediacy of the proposed transaction opportunity outweighs the need for standard ROC review process, they will direct the CRO to poll the ROC members via e-mail to determine if they approve the proposed Non-Standard Transaction. Regardless of the outcome, the

CRO will inform the ROC of any decision made under the process outline above within two business days of a final determination.

5. **Transactions that Change after ROC Approval**

If the terms of a transaction are modified after the ROC has approved the transaction, the transaction originator will inform the Transacting and Credit Risk Manager of any such changes from the contract terms that were approved by the ROC. If the Transacting and Credit Risk Manager determines that the terms and conditions of the transaction have materially changed since ROC approval, he or she will inform the originator and the ROC. The Front Office manager may appeal the decision of the Transacting and Credit Risk Manager to the CRO. If the CRO affirms the conclusion of the Transacting and Credit Risk Manager, the Front Office manager may refer the matter to the ROC for consideration. If it is determined that additional consideration by the ROC of the proposed transaction is required, the originator is responsible for pursuing the approval process for the transaction as modified.

B. **Market risk limits and violations:** Market risk is inherent to BPA and our activities as a power marketing agency; as such BPA puts sideboards in place to manage Market Risk and the consequences it may have on BPA meetings its strategic business objectives.

1. **Portfolio Financial Risk Indicator**: BPA's rate setting process provides the primary risk mitigation for Agency financial performance. The Portfolio Financial Risk Indicator is designed to reflect this risk mitigation approach. The financial risk indicator applies to the current and first forward fiscal year. Analytical methods described in **Appendix E – Risk Limits and Methodology** are used to generate the distribution of net secondary revenue for the current and first forward fiscal years. If the probability that realized net secondary revenue will result in the complete depletion of BPA's financial reserves exceeds the specified percentage, then the CRO will notify the ROC within five business days. This indicator is non-binding, and is intended solely to provide notification and to trigger discussion of potential responses. The limit violation procedure specified in section 2.2.8.B.7 (below) does not apply to this indicator.
2. **Energy limits**: Energy position targets and their application are defined in **Appendix E – Risk limits and methodology.** Any transaction that moves the portfolio energy position directionally away from the target band is considered a non-standard transaction and must receive prior approval by the ROC.
3. **Renewable Energy Certificates limits**: Renewable Energy Certificates (RECs) limits are defined in **Appendix E – Risk limits and methodology**.
4. **Term and tenor limits**: Are defined in **Appendix B – Standards Products.**
5. **Capacity**: As part of its resource program, BPA periodically reassesses its capacity resource adequacy consistent with regional standards and industry best practices. Risk Management continues to work with Power Services to pursue improved

measurement and forecasting of capacity position. A capacity position limit structure will be developed when appropriate.

6. **Transmission limits**:

   a. **Purchasing of transmission capacity, absent energy**: In the normal course of business, BPA purchases firm and non-firm transmission to deliver power to anticipated delivery points and to manage basis risks. The amount of transmission that may be purchased by Power Services is related to BPA's underlying forecast energy positions in forward time periods.

   The annual amount of transmission rights to final delivery points that may be purchased for a calendar year is limited to an amount equal to the largest single month potential inventory position measured as the greater of the absolute value in megawatts of either, a) 75th percentile water in that given month, or b) 5th percentile water in that given month, for each operating year.

   b. **Reassigning of Power Services' transmission rights**: Power Services may resell its transmission rights for the purpose of reassignment consistent with the applicable transmission provider's pro forma Open Access Transmission Tariff (OATT). The voluntary reselling resulting in the reassignment of all or part of Power Services' firm point-to-point capacity rights may only be done with counterparties deemed eligible by the Middle Office, consistent with **Credit risk limits,** section 2.8.4.B.7.d of this policy.

   Power Services is limited to reselling for the purpose of reassigning its transmission rights to the prompt three months. Power Services documents and posts its monthly capacity reassignment resale strategy each week, and those strategies are monitored by the Middle Office. The Middle Office is responsible for reporting any transaction(s) that exceed the posted strategy to the ROC.

7. **Position limit violation procedures**: The following limit violation procedures apply in the event that there is a violation of any position limit specified in **Market risk limits and violations**, Section 231-2.8.B, of this policy.

   a. **Notification of management**: The Middle Office reports all position limit violations to the ROC within one business day of detection. This report includes the following information: the counterparty, the position limit that has been violated, the responsible party, the transaction(s), the date of violation, the delivery period, price and volume, the actual and potential financial impact, and an evaluation of the apparent cause of the violation.

   b. **Explanation and cure of violation**: The CRO's office works with Power Services management and staff to determine the apparent cause of the violation and decide on appropriate corrective actions. The CRO communicates the agreed on corrective actions to the ROC. If the portfolio is not brought back into compliance with position limits within five business days of the discovery of the violation, the

CRO notifies the ACGC and calls a special meeting of the ROC. The ROC determines the additional actions, if any, that should be taken to bring the portfolio back into compliance with applicable position limits. The ROC may conclude that no action will be taken and that the limit violation is acceptable. The CRO informs the ACGC of the ROC's decision. The CRO has the ongoing responsibility to inform the ROC and ACGC weekly if the violation persists.

c. **Non-Adjudicated settlement limits:** Any voluntary settlement with a single counterparty outside of the contractual terms, which results in a financial loss in excess of $100,000, must be reported to the CRO and documented by the Back Office with the following detail: the counterparty, the amount of settlement, the staff point of contact, the final contract or identifier, the date of settlement, the delivery period if applicable, the price, the volume, and a brief description of settlement discrepancy and apparent cause analysis.

d. **Credit risk limits:** The Credit Risk group in the Middle Office is responsible for creditworthiness determination, assignment of credit and tenor limits based upon internal ratings consistent with **Appendix F – Credit risk limits**, and monitoring the total energy commodity-related credit exposure BPA has to its counterparties.

1. **Creditworthiness Assessments**:

a. **Bilateral Trades:** All counterparties must be screened and assessed for creditworthiness. The Credit Risk group in the Middle Office is responsible for performing credit assessments and assigns an internal credit rating to all counterparties. Counterparties may elect to have a guarantor assessed on its behalf. Creditworthiness assessments must be refreshed at least annually.

b. Trades executed through a Futures Commission Merchant (FCM) – Any FCM must be reviewed by the Middle Office to determine their creditworthiness and acceptability to BPA. The FCM must be a member of a DCO, such as ICE Clear U.S or ICE Clear Europe, whose core principles are established in Section 5b, 7 USC § 7a-1, of the Commodity Exchange Act (CEA) or other applicable law or regulation.

2**. Credit and tenor limits:** Appendix F – Credit Risk Limits establishes the maximum extension of unsecured credit based on the internal rating of the counterparty or their guarantor. No transactions may be executed that would exceed a counterparty's credit limit, unless an exemption is obtained in Section 3 below. Counterparties who are extended unsecured credit based upon an acceptable guarantor will be limited by the amount of the guarantee or Appendix F. Counterparties who wish to enhance their unsecured credit limit established in Appendix F – Credit Risk Limits must provide cash equivalent credit support (i.e. letters of credit, escrows, etc.). Credit enhancement agreements must be approved by the General Counsel's Office and the Credit

Risk group. To the extent the credit enhancement agreement requires bilateral margining requirement the margining thresholds must be approved by the ROC and the Chief Financial Officer (CFO).

3. **Exceptions to credit risk limits in Appendix F - Credit risk limits:**

   a. **De minimis credit exceptions for a deal or strategy:** Power Services may request from the Credit Risk group a temporary increase of a counterparty's total credit limit established in Appendix F of up to 20 percent, not to exceed $4 million. Power Services may in addition request from the Credit Risk group a temporary extension of counterparty's tenor limit of up to an additional 3 months. All exceptions must be requested by the Trade Floor manager or designee and must be documented.

      Exceptions shall be approved by two members of the Credit Risk group with at least one being a lead/senior analyst or the Manager of the Transacting and Credit Risk Management group. The Credit Risk group will inform the Trade Floor manager or designee and ROC of any decision made under the process within two-business days.

   b. **Urgent circumstance(s):** Should circumstances arise that must be addressed immediately such as an imminent spill scenario, or threat to reliable system operations, the Trading Floor Manager may request from the Credit Risk group a temporary increase of a counterparty credit limit. A temporary credit limit increase may not exceed $2 million and is restricted to within-month transactions. Such temporary credit increase may be approved by either the Transacting and Credit Risk Manager or designee.

      The urgent circumstance must be documented in writing by the Trading Floor Manager or Transacting and Credit Risk Manager and reported to the ROC at the next meeting.

   c. **Emergency Conditions:** Under Emergency conditions the Credit Risk Limits may be temporarily suspended to allow the Front Office to acquire the necessary power to maintain real time operating reliability and resolve the Emergency condition(s).

      Transactions done under Emergency Conditions must be documented in writing by the Trading Floor Manager or Transacting and Credit Risk Manager and reported to the ROC at the next meeting

   d. **Adverse Market or Credit Conditions:** The CRO or designee may at his or her sole discretion temporarily decrease counterparty's credit limit in the event of adverse changes to market and/or credit conditions. The decrease will be documented and reported to the ROC at the next meeting.

e. **Preference customers**: Preference Customers will be granted the greater of $4 million in unsecured credit or the amount specified by internal ratings limits as specified in Appendix F – Credit Risk Limits in order to execute a Standard Transaction to meet loads not served by federal power. The tenor limit will be the greater of 12 months or the amount specified by the internal rating as specified in Appendix F – Credit Risk Limits.

f. **Temporary increases:** Should the exceptions outlined in 3(a-d) above be deficient to implement the strategies of Power Services, Power Service may request from the ROC additional exceptions to Appendix F – Credit Risk Limits Power Services will be responsible for preparing documentation supporting the request. The Middle Office will be responsible for performing a credit assessment to accompany the request.

g. **Exchange Traded Transactions or transactions with Credit Support Agreement:** All exchange traded transactions shall be governed by the Commodity Exchange Act and the agreement between the Agency and the FCM. All transactions executed between the Agency and a counterparty with a credit support annex shall be done pursuant to that agreement.

4. **Credit limit violation notification procedures**

a. **Notification of management**: The Middle Office reports all credit limit violations to the ROC within one business day of detection. This report includes the following information: the counterparty, the total exposure, and the credit limit that has been violated, the responsible party, the transaction(s), the date of violation, the delivery period, price and volume, the actual and potential financial impact, and an evaluation of the apparent cause of the violation.

b. **Explanation and cure of violation**: The CRO's office works with Power Services management and staff to determine the root cause of the violation and decides on appropriate corrective actions. The CRO communicates the agreed on corrective actions, if any, to the ROC. The CRO has the ongoing responsibility to inform the ROC, as needed, if the violation persists.

C. Transaction capturing and processing

For the purpose of this policy, energy commodity-related transactions shall be executed in a manner consistent with the following process. The Front Office is responsible for developing, pricing, and transacting energy-related commodity transactions. Further, the Front Office ensures that all daily, balance of the month and term transactions are accurately captured in the official system of record. Front Office personnel then reports to the Middle Office and Back Office (specifically, Contract Administration, Derivative Accounting) that this process is complete before the end of day financial and risk reporting process commences.

The Middle Office verifies that all reported Front Office transactions are reflected in the official system of record. The Middle Office also determines the market value of all transactions, imposes credit risk control, and assesses financial and performance risk through the end of day process.

The Back Office (Contract Administration, Derivative Accounting, and Billing) is responsible for monitoring and ensuring the proper and timely capture and billing of power transactions. Contract Administration also administers most Front Office transactions and is responsible for notifying Front Office in advance of any material contractual obligation or right. Derivative Accounting applies all relevant generally accepted accounting principles to the financial reporting and disclosure of all transactions and ensures that the official system of record allows for reporting in accordance with financial accounting standards. Customer Billing is responsible for coordinating, managing, overseeing, and directing activities related to customer billing operations.

Collectively, the Front, Middle and Back Offices are responsible for ensuring that all Front Office transactions are accurately captured in the official system of record in a timely manner and for resolving any discrepancies regarding transaction entry, transaction valuation, etc.

This process does not supersede any requirements defined in other official BPA policies or the Agency's OMB Circular A-123 controls.

D. **Analytics and Reporting**

This section defines minimum reporting requirements for energy commodity-related transaction activity and portfolio risks. The ROC, the Administrator, and/or the CRO may periodically require additional reports. These reports should communicate BPA's commercial transaction activity and the market, operational, and credit risks assumed by BPA, as well as required information pertaining to performance measurement and program evaluation. The Middle Office will be responsible for developing and delivering these reports in a timely manner.

1. **Position and Limits Compliance Reporting:** Reports provide information daily to inform management and staff of open positions, gross and net, and corresponding limits.
2. **Credit Risk Reporting:** Reflects credit exposure at the close of each trading day. The report documents each counterparty's credit limit, prior and current month receivables, sales mark-to-market value, purchases mark-to-market value, and available credit.
3. **Financial Risk Reporting:** Expected and 5 percent confidence level net secondary revenue (excluding priority-firm rate contracts), will be generated and distributed at least once per week. A description of the portfolio risk position with respect to the financial risk indicator will be included.

4. **Stress Testing/Scenario Analysis Reporting:** Results for at least three specific stress test scenarios will be quantified and reported on a weekly basis depicting sensitivities of net secondary revenue in regards to changes in price, inventory, volatility, and hydro-price correlation. These stress test scenarios will include the impact of a prolonged Columbia Generating Station forced outage and the impact of extreme hydro conditions.

5. **Within-Month Position Reporting:** The Trading Floor is solely responsible for all intra-month position management reporting standards and for keeping the ROC apprised of changes in market, position, and system conditions and the Trading Floor's portfolio management activities and strategies.

6. **Renewable Attributes Reporting:** Will be maintained and reported monthly by the Middle Office. The Front Office must notify the ROC in writing if the total volume for all renewable attribute transactions in any given current or forward Fiscal Year rises above 1 million megawatt-hours, or forward prices for renewable attributes rise above $15 per megawatt hour.

7. **Forward Looking Valuation:** Transaction valuation and reporting of positions is the sole responsibility of the Middle Office and must be based on objective, market-observed prices except as otherwise authorized by the ROC. Open positions should be marked-to-market on a daily basis employing consistent valuation methods. All price information should be taken from a consistent source. Position values and the price curves used to value positions are to be in accordance with fair value and derivative accounting standards and must be sufficient for the purpose of BPA's annual external audit. The Back Office accounting and reporting organization is responsible for the accurate and timely reporting of BPA's derivative instrument portfolio reflected in the FCRPS financial statements.

8. **Forward Price Curve:** For Risk Management purposes, forward prices for the visible market and models for periods where there is no observable market price will be used. This fusion of market and model prices is then used for transaction valuation and marking positions to market for internal and external financial reporting as described above. This is a distinct set of prices that may differ from the price forecasts produced by the Front Office for position and transaction evaluation.

   The ROC must have final approval of the standards recommended by Risk Management for the creation, maintenance, and application of forward price curves used for the independent valuation of open positions.

9. **Official Inventory Modeling:** The Power Services Operations Planning group must provide official inventory and operations studies approximately monthly. The Middle Office must validate the methods used to produce these studies.

10. **Back-testing:** The testing and verification of valuation models will be performed annually according to Middle Office back-testing standards documentation in order

to verify the accuracy of the methodology being used. Such testing will include back-testing and/or internal third party verification of valuation outputs.

11. **Data Maintenance and Development:** The Middle Office will develop, control, and maintain a database of historical prices, volatilities, and correlation and make this data available to the Front and Back Office.

12. **Model Change Procedures:** Changes must be approved by the Transacting and Credit Risk Manager or his/her designee. These changes, when deemed material by the Transacting and Credit Risk Manager, will be reported to the ROC. The Manager of Operations Planning will have identical responsibilities as the Transacting and Credit Risk Manager in regards to changes in the official inventory model.

E. PROCEDURES

1. Changes to Policy and Appendices:

Policy change requests require review and approval by the ROC and the ACGC prior to transmittal to the Administrator on a TAC (Transmittal for Administrator/CEO action) for approval. Changes to the Appendices do not require Administrator approval.

The person or organization sponsoring the Policy change request must document the proposed change through an ADF and present the change to the ROC and ACGC. The person or organization sponsoring the Policy change request and the CRO will determine the level of rigor that is needed for the justification that will be presented to the ROC and the ACGC. Such justification will conform to the standards of the ADF and any standards specified by the ROC and the ACGC. Each Policy change request will contain the following information, as applicable: the language to be changed in the Policy, the reason for the proposed change, a list of affected organizations, an assessment of the extent of the change upon operations and risk, and a timeframe for implementation.

Proposed amendments that are not substantive in nature, such as factual, typographical, formatting, or grammatical corrections, and changes to organizational titles of members may be a approved by the CRO and do not require an ADF.

Stakeholder organizations within BPA that may be affected by the proposed Policy change, including, at a minimum, affected Front Office organization(s), Risk Management, Contract Administration, Billing, Accounting, and General Counsel's Office, will be provided an opportunity to review and comment on the draft ADF. Each stakeholder will report the results of this review to the person or organization sponsoring the Policy change request and the CRO. If the modification will require new systems or additional custom reporting from Information Technology (IT), the person or organization sponsoring the Policy change request has the responsibility to coordinate with IT to ensure the change can be supported.

As part of its review, the CRO must assess whether all steps of this process have been satisfactorily performed, and whether the proposal is ready for ROC and ACGC review.

F. **Policy Compliance:**

1. **Noncompliance:** Noncompliance with the provisions of this Policy, including misrepresentation of, or concealment of, information regarding any transaction from the Middle Office, the ROC, or any person responsible for the accurate recording and reporting of each transaction, may result in disciplinary action by the employee's supervisor in accordance with Federal employee regulations and applicable laws.

2. **Policy Notification:** Current risk management policies will be readily available and posted on the internal Risk SharePoint site as well as on the BPA Manual Web site. ROC and ACGC members, managers, and staff affected by risk management policies will receive e-mail notification from the CRO whenever the Policy is amended including a description of the changes

1.9 Performance & Monitoring

A. **Analytics and reporting:** This section defines minimum reporting requirements for energy commodity-related transaction activity and portfolio risks. The ROC, the Administrator, and/or the CRO may periodically require additional reports. These reports should communicate BPA's commercial transaction activity and the market, operational, and credit risks assumed by BPA, as well as required information pertaining to performance measurement and program evaluation. The Middle Office will be responsible for developing and delivering these reports in a timely manner.

1. **Position and limits compliance reporting**: Provides daily information to inform management and staff of open positions, gross and net, and corresponding limits.

2. **Credit exposure reporting:** This report reflects credit exposure at the close of each trading day. The report documents each counterparty's credit limit, prior and current month receivables, sales mark-to-market value, purchases mark-to-market value, and available credit.

3. **Financial risk reporting:** Expected and 5 percent confidence level net secondary revenue (excluding priority-firm rate contracts), are generated and distributed at least once per week. A description of the portfolio risk position with respect to the financial risk indicator is included.

4. **Stress testing/scenario analysis reporting:** Results for at least three specific stress test scenarios are quantified and reported on a weekly basis depicting sensitivities of net secondary revenue in regards to changes in price, inventory, volatility, and hydro-price correlation. These stress test scenarios include the impact of a prolonged Columbia Generating Station forced outage and the impact of extreme hydro conditions.

5. **Within-month position reporting:** The Trading Floor is solely responsible for all intra-month position management reporting standards and for keeping the ROC apprised of changes in market, position, and system conditions and the Trading Floor's portfolio management activities and strategies.
6. **Renewable attributes reporting**: The renewable attribute position report is maintained and reported monthly by the Middle Office. The Front Office must notify the ROC in writing if the total volume for all renewable attribute transactions in any given current or forward Fiscal Year rises above 1 million megawatt-hours, or forward prices for renewable attributes rise above $15 per megawatt hour.
7. **Forward looking valuation:** Transaction valuation and reporting of positions is the sole responsibility of the Middle Office and must be based on objective, market-observed prices except as otherwise authorized by the ROC. Open positions are marked-to-market on a daily basis employing consistent valuation methods. All price information is taken from a consistent source. Position values and the price curves used to value positions are to be in accordance with fair value and derivative accounting standards and must be sufficient for the purpose of BPA's annual external audit. The Back Office accounting and reporting organization is responsible for the accurate and timely reporting of BPA's derivative instrument portfolio reflected in the FCRPS financial statements.
8. **Forward price curve:** For risk management purposes, forward prices for the visible market and models for periods where there is no observable market price will be used. This fusion of market and model prices is then used for transaction valuation and marking positions to market for internal and external financial reporting as described above. This is a distinct set of prices that may differ from the price forecasts produced by the Front Office for position and transaction evaluation.

   The ROC must have final approval of the standards recommended by Risk Management for the creation, maintenance, and application of forward price curves used for the independent valuation of open positions.
9. **Official inventory modeling:** The Power Services Operations Planning group provides official inventory and operations studies approximately monthly. The Middle Office validates the methods used to produce these studies.
10. **Back-testing:** The testing and verification of valuation models is performed annually according to Middle Office back-testing standards documentation in order to verify the accuracy of the methodology being used. Such testing includes back-testing and/or internal third party verification of valuation outputs.
11. **Data maintenance and development:** The Middle Office develops, controls and maintains a database of historical prices, volatilities, and correlations and makes this data available to the Front and Back Office.

12. **Model change procedures:** Model procedural changes are approved by the Transacting and Credit Risk Manager or his/her designee. These changes, when deemed material by the Transacting and Credit Risk Manager, are reported to the ROC. The Manager of Operations Planning has identical responsibilities as the Transacting and Credit Risk Manager in regards to changes in the official inventory model.

B. **Policy noncompliance:** Noncompliance with the provisions of this policy, including misrepresentation of, or concealment of, information regarding any transaction from the Middle Office, the ROC, or any person responsible for the accurate recording and reporting of each transaction, may result in disciplinary action by the employee's supervisor in accordance with Federal employee regulations and applicable laws.

C. **Policy notification:** Current risk management policies will be readily available and posted on the internal Risk SharePoint site as well as on the BPA Manual Web site. ROC and ACGC members, managers, and staff affected by risk management policies will receive e-mail notification from the CRO whenever the policy is amended including a description of the changes.

1.10 Authorities & References

A. ACGC Charter

B. ROC Charter

C. Agency Decision Framework (ADF), ADF Participant Guide

D. Appendix A – Exchange Traded Transactions

E. Appendix B – Standard products

F. Appendix C – Non-treaty storage agreements or water agreements for commercial purposes

G. Appendix D – Non-standard transaction and hedging strategy approval Process

H. Appendix E – Risk Limits and Methodology

I. Appendix F – Credit Risk Limits

1.11 Review

This policy is scheduled for review in 2020.

Changes to policy and appendices: Policy change requests require review and approval by the ROC and the ACGC prior to transmittal to the Administrator on a TAC (Transmittal for Administrator/CEO action) for approval. Changes to the appendices do not require Administrator approval.

The person or organization sponsoring the policy change request must document the proposed change through an ADF and present the change to the ROC and ACGC. The person or organization sponsoring the policy change request and the CRO will determine the level of rigor that is needed for the justification that will be presented to the ROC and the ACGC. Such justification will conform to the standards of the ADF and any standards specified by the ROC and the ACGC. Each policy change request will contain the following information, as applicable: the language to be changed in the policy, the reason for the proposed change, a list of affected organizations, an assessment of the extent of the change upon operations and risk, and a timeframe for implementation.

Proposed amendments that are not substantive in nature, such as factual, typographical, formatting, or grammatical corrections, and changes to organizational titles of members may be a approved by the CRO and do not require an ADF.

Stakeholder organizations within BPA that may be affected by the proposed policy change, including, at a minimum, affected Front Office organization(s), Risk Management, Contract Administration, Billing, Accounting, and General Counsel's Office, will be provided an opportunity to review and comment on the draft ADF. Each stakeholder will report the results of this review to the person or organization sponsoring the policy change request and the CRO. If the modification will require new systems or additional custom reporting from Information Technology (IT), the person or organization sponsoring the Policy change request has the responsibility to coordinate with IT to ensure the change can be supported.

As part of its review, the CRO must assess whether all steps of this process have been satisfactorily performed, and whether the proposal is ready for ROC and ACGC review.

1.12 Revision History

Version	Issue Date	Description of Change
2	June 16, 2015	Migration of content to new policy format.

1-13 APPENDIX A – Exchange Traded Transactions

1. The CFO and ROC must approve any change to the analytical methods used to determine cash margin exposure or any limit set forth in this Appendix dealing with Exchange Traded Transactions.

2. Limits:

   a. The following limit structure applies to Energy Commodity Related Transactions that are submitted to be cleared through an exchange. The objective of the limit is to mitigate the total amount of cash posted to an exchange.

3. Tenor and Volume Limits:

   a. Energy Commodity Related Transactions that are submitted to be cleared through an exchange may only be traded 6 months beyond the current month. For example, a June 2014 contract cannot be traded any earlier than December 1, 2013.

b. The position (either long or short) for any individual month cannot exceed 600 MW HLH or 600 MW LLH. (Example 1: A trader could sell 600 MW LLH and sell 600 MW HLH financials forward for a given month. This would put the trade floor at both the monthly limit and the aggregate absolute value limit, described in 2.c. below.)

c. The aggregate absolute value position of all open contracts cannot exceed 1200 MW. Contracts with the same monthly settlement period will be netted. Energy Commodity Related Transactions that are submitted to be cleared through an exchange that do not have the same monthly settlement period will not net against each other (example 1: January purchase will not net against a February sale. Example 2: January HLH purchase will not net against a January LLH Sale).

d. The sale of April LLH, May LLH, and June LLH Futures Financial Contracts are prohibited.

4. Margin Limit:

a. If the 10-day Margin-at-Risk (MaR) calculation from the Margin Requirements model (indicates that there is a 5% probability or greater that the cumulative margin balance will exceed $20M within the next 10-days, the trading floor cannot put on any additional open financial positions.

b. When the cumulative margin paid reaches $20 million, the Front Office has 5 business days to close as many financial contracts as necessary to get the portfolio below the limit or close all open transactions.

c. Financial trading can resume when the Margin Requirements model indicates that there is less than a 5% probability that the cumulative margin balance will exceed $20M within the next 10-days.

1.14 APPENDIX B – Standard Products

Standard product transactions must have contractual terms and conditions consistent with the attributes described in the categories listed below:

Instruments

- Fixed Price Forwards
- Index Priced Forwards (pricing based on hourly, daily or monthly indexes published by Platts (formerly Dow Jones), ICE, PowerDex, or CAISO; pricing formula must be simple addition or subtraction; Transmission Loss transactions may be indexed)
- Commodity option transactions (put or call) on underlying Standard Transactions (Purchases only) consistent with regulations set forth in 17 CFR 32
- Energy neutral exchanges of standard products
- The exercise of options specified in contractual terms of existing long-term contracts
- Fixed Price Future Peak
- Day-Ahead Peak Fixed Price Future

Delivery patterns

- Heavy load hours (HLH)
- Light load hours (LLH)
- Flat (7x24)
- Expanded HLH (7x16)
- Expanded LLH (7x8)
- Graveyard (HE1 – 4)
- Super-Peak Hours (Winter: 6 days per week, hours ending 8-11, 17-20. Summer: 6 days per week, hours ending 13-20)
- Deliveries start and end on calendar month boundaries

Product list

- Specified Power (sales)
- Surplus Firm Energy (sales)
- Firm Energy (purchases)
- Firm Transmission
- Non-Firm Transmission
- Transmission Losses
- Sale of interruptible or non-firm energy (limited to 1 (one) year term within a 24 month forward window)
- Unit commitment (also known as unit contingent) physical energy from existing resources, including intermittent resources (limited to 1 (one) year term within a 24 month forward window)
- Reserves (spin/non-spin)-Maximum 200 MW limited to 1 (one) year term within a 24 month forward window
- Renewable Energy Certificates
- Wind integration services for requirements customers under current Regional Dialogue contracts

Term (duration) and tenor

- Maximum term is two years
- Maximum tenor for transactions cleared through an exchange is prompt plus six months
- Maximum five year forward tenor from Trade date (i.e. - no deliveries beyond five full calendar years from the date of contract execution)

Credit support

- Standard WSPP credit/billing terms, or credit terms approved by Risk Management with billing terms approved by Customer Billing

Authorized delivery points: Capacity and/or energy sales may be delivered (point of title transfer to any point across BPA's Transmission system or to meet BPA's transfer customer loads off BPA's system without restriction.

1.15 APPENDIX C – Non treaty storage agreements or water agreements for commercial purposes

The Power & Operation Planning group is authorized to execute Non Treaty Storage Agreements or Water Agreements for Commercial Purposes with a duration of 18 months or less without ROC review. Power & Operation Planning group will notify the Middle Office after execution of any agreement 18 months or less including when the agreement will be reflected in the hydro studies used by the Bulk Hub for power trading purposes. The Middle Office will verify that any executed agreement that affects hydro shape is consistent with

1.16 APPENDIX D – Risk Limits and Methodology

In any case where there is lack of absolute clarity as to whether the agreement is consistent with the limit structure, the Power & Operation Planning Manager or designee should consult with the Transacting and Credit Risk Manager. Any disagreement will be referred to the Vice President of Generation Supply and the CRO for resolution. If they fail to reach agreement then the matter will be referred to the ROC.

Non Treaty Storage Agreements or Water Agreements for Commercial Purposes greater than 18 months in duration need to follow the outlined processes in APPENDIX D – Non-Standard Transaction and Hedging Strategy Approval Process.

1.17 APPENDIX E – Non-standard transaction and hedging strategy approval process

Non-Standard Transactions (any transaction not to be defined by this policy as a Standard Transaction) and hedging strategies (a set of potential transaction types that are Non-Standard or outside the Risk and Credit limits on transaction activity) require review and approval by the ROC prior to execution. A hedging strategy composed entirely of Standard Transactions is not required to follow this approval process so long as it is executed within the applicable volumetric and credit limits. The person or organization sponsoring the Non-Standard Transaction or hedging strategy must follow the approval process described herein.

Consistent with BPA Policy, the Agency Decision Framework (ADF) process will be applied in deciding on the transaction or hedging strategy proposed for approval. Documentation must be provided to the ROC sufficient to give the ROC adequate assurance that the ADF process was properly applied and to understand the justification for the proposed non-standard transaction or hedging strategy. This documentation should be structured to follow the steps of the ADF process.

The level of analytical detail and procedural rigor required for proposed Non-Standard Transactions should be consistent with the complexity and risk of the transactions. Front Office management and the CRO will work cooperatively to determine the level of analytical and procedural rigor that is appropriate given the specifics of the proposed Non-Standard Transactions or hedging strategy.

The Transacting and Credit Risk Manager will work with the Non-Standard Transaction or hedging strategy proponent to ensure that the specified procedural and documentation requirements and standards of the ROC have been met.

Proposed Non-Standard Transactions or hedging strategies consistent with the preferred portfolio identified in the Agency's Resource Program (RP) are subject to this approval process. Documentation provided for proposed transactions or strategies derived from the RP may draw heavily from the final RP documentation for justification.

Each Non-Standard Transaction or hedging strategy proposal should contain the following information, as applicable:

- Transaction(s) general terms and conditions: product description, counterparty, whether the Agency is buyer or seller, tenor, pricing, point of delivery (POD), scheduling terms, billing requirements, etc…
- ADF documentation:
  - Should describe in general terms the purpose of the transaction as well as the value BPA delivers versus the value BPA receives
  - Pricing Methodology overview
- Quantitative analysis standards (qualitative as appropriate):
  - Quantitative assessment of inventory position impact to BPA
    - Energy by month, Heavy Load Hours /Light Load Hours
    - Impact on position limits as cited in the Risk Policy, Appendix E
  - Financial risk assessment of transactions with tenor of one to five years
    - Impact on current risk limits according to the Risk Policy, Appendix E
    - Impact at mean, 5^{th} percentile of net secondary revenues
  - Financial risk assessment of transaction longer than five years must include consideration of:
    - Transaction cost estimates will be measured against relative alternatives identified in the ADF
    - Transactor estimate of qualitative impact on rates
- Assessment of impact on Agency Credit Exposure
  - Identification and mitigation of any credit/performance risk
  - Identification of necessary credit exceptions (i.e. tenor limit, dollar limit, volume limit)
  - Consideration of alternative credit/performance support mechanisms and their costs
- Approvals of stakeholders that the transaction can be effectively administered

1.18 APPENDIX F — Risk limits and methodology

Portfolio financial risk indicator

The financial risk control approach under this Policy manages financial risk on a portfolio basis. Specifically, the probability of an adverse financial outcome is monitored to notify when it exceeds a specific level set by the ACGC. The specific adverse financial outcome is defined as a level of realized net secondary revenue over the current and first forward fiscal year that fully exhausts the Agency's accumulated cash reserves. If the probability of this event exceeds 0.5 percent (1 in 200), then notification actions must be taken as specified in this Policy.

The probability of this adverse financial outcome will be calculated at least weekly, and more frequently if conditions require. The existing Net Revenue at Risk (NRAR) methodology will be used to develop the distribution of realized net secondary revenue for the current and first forward fiscal years. This methodology considers market price volatility, inventory (hydro generation capability and preference customer load requirements) uncertainty, and the correlations among market prices and inventory levels. The realized net secondary revenue at the .5 percent level is derived from this distribution.

This method requires the projection of Agency primary net revenue for the first forward fiscal year. This projection will be developed using the best available forecasts of Agency primary costs and revenues from the Finance department.

Portfolio position limits

Position limits are enforced for the period beyond that covered by the financial risk indicator (the current and first forward fiscal years). The position limits are considered as a target position band. Transactions that move the portfolio directionally toward or within the band, and are otherwise standard under this Policy, are considered standard product transactions and do not require ROC review prior to execution. Transactions that move the portfolio directionally away from the band are not standard and require ROC review. Transactions that maintain BPA's overall net position within the target bands, as described above, in at least two-thirds of the months in the transaction period are considered Standard Transactions.

These portfolio position targets are not hard limits such that the position of the portfolio must be kept within the target range. These limits only implicate directional changes in position away from the target bands. For example, if the position target band for December 2013 heavy-load-hour position is -500 aMW to +1000 aMW, and the current position is -600 aMW, sales would not be allowed without ROC review and approval. The bands are defined below:

HLH position targets

Upper limit: Purchases are standard only when the portfolio position is 2000 aMW or less surplus at the 50th percentile of the inventory curves.

Lower limit: Sales are standard only when the portfolio position is negative 500 aMW (500 aMW deficit) or greater at the 20th percentile of inventory curves.

LLH position targets
Upper limit: Purchases are standard only when the portfolio position is 1000 aMW or less surplus at the 50th percentile of the inventory curves.
Lower limit: Sales are standard only when the portfolio position is negative 750 aMW (750 aMW deficit) or greater at the 20th percentile of inventory curves.

Flat position targets
Upper limit: Purchases are standard only when the portfolio position is 2000 aMW or less surplus at the 50th percentile of the inventory curves.
Lower limit: Sales are standard only when the portfolio position is negative 500 aMW (500 aMW deficit) or greater at the 20th percentile of inventory curves.

Renewable Energy Certificates
Non-power attributes that arise from renewable resources, such as wind, and which are sold as Renewable Energy Certificates (RECs) on a forward basis, must be defined as 80 percent of average forecast renewable-generated non-power attributes for any particular time period, as projected by the Renewable Inventory Application (RIA). RIA contemplates unsold, historical, and forecast attributes when calculating limits. Renewable positions from geothermal and other low-variance sources must be considered 100 percent of average forecast generation for any particular time period. BPA is prohibited from having a net short position in any forward time period, given the above assumptions in position measurement. Short positions resulting from forecast error outside the 80 percent of mean assumption are not considered a limit violation. Non-power attribute transactions may take place any time through the 20th fiscal year past the present fiscal year.

1.19 APPENDIX G – Credit risk limits

The following limits apply to energy commodity-related transactions:

Non-Financial Institutions

Internal Rating	Tenor Limit	Maximum Unsecured Credit Limit	Volumetric Limit
AAA	60 months	$60 million	200aMW
AA+	60 months	$50 million	150aMW
AA	60 months	$40 million	150aMW
AA-	60 months	$35 million	100aMW
A+	48 months	$30 million	100aMW
A	36 months	$25 million	75aMW
A-	24 months	$20 million	75aMW
BBB+	12 months	$15 million	N/A
BBB	9 months	$10 million	N/A

BBB-	6 months	$5 million	N/A
BB+ or lower	Within Month Purchases Only	$0	N/A

Financial Institutions

Internal Rating	**Tenor Limit**	**Maximum Unsecured Credit Limit**	**Volumetric Limit** *I*
AA+ or higher	60 months	$50 million	150aMW
AA	60 months	$40 million	150aMW
AA-	48 months	$30 million	100aMW
A+	36 months	$25 million	100aMW
A	36 months	$20 million	75aMW
A-	18 months	$15 million	50aMW
BBB+	12 months	$10 million	N/A
BBB or Lower	Within Month Purchases Only	$0	N/A

Exceptions to the credit limits listed in Appendix F must be in accordance with **Exceptions to Credit Risk Limits,** Section 675.8.D.3.

I) Volumetric Limits are for transactions that are greater than 12 months in duration, or extend beyond the 12th forward month. Volumetric limits are based on average annual megawatts. **There are no volumetric limits for deals less than 12 months in duration.**

II) Credit Limits will be viewed on an aggregated basis for each group of affiliated counterparties.

III) Credit Limit cannot exceed 5 percent of tangible net worth. Credit limit will be restricted by the amount of a guarantee.

IV) Public Preference Customers are extended the higher of the above limits or $4 million and a 12 month tenor.