

TENNESSEE VALLEY AUTHORITY

**TRANSMISSION SERVICE
GUIDELINES
Fiscal Year 2010 Edition**

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FOREWORD

These Guidelines provide the terms and conditions by which any Eligible Customer can obtain from the Tennessee Valley Authority (TVA) Transmission Service determined by TVA to be in excess of its needs to use the TVA Transmission System to carry out its statutory responsibilities to provide an ample supply of power to the TVA area at the lowest feasible cost in accordance with the TVA Act. Such available Transmission Service shall be used for the delivery of electric capacity and energy over the TVA Transmission System from Delivering Parties to Receiving Parties in such manner as does not interfere with TVA's use of its Transmission System for carrying out its statutory purposes. Such Transmission Service to others is to be provided by TVA in accordance with these Guidelines, applying Good Utility Practice and in accordance with all applicable laws, including the Energy Policy Act of 1992, the Energy Policy Act of 2005, and the TVA Act, and reasonably consistent with FERC Orders 888 and 890.

I. COMMON SERVICE PROVISIONS**1 Definitions**

Whenever the terms defined below appear in the Guidelines (including any Schedules and Attachments) whether in the singular or in the plural form or in the past or the present tense, the terms have the meanings set forth in this section.

1.1 Affiliate

With respect to a corporation, partnership or other entity, each such other corporation, partnership or other entity that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such corporation, partnership, or other entity.

1.2 Ancillary Services

Those services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of TVA's Transmission System in accordance with Good Utility Practice.

1.3 Annual Transmission Costs

The total annual cost of the Transmission System for purposes of Network Integration Transmission Service shall be the amount specified in Attachment H until amended by TVA.

1.4 Application

A request by an Eligible Customer for Transmission Service pursuant to the provisions of the Guidelines.

1.5 Available Transmission Capacity or Available Transmission Capability

See Available Transfer Capability.

1.6 Available Transfer Capability

The amount of power, as determined by TVA, that can be transferred from a Point of Receipt to a Point of Delivery consistent with Good Utility Practice, applicable reliability criteria, and other considerations affecting the TVA system.

1.7 Balancing Authority

The entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within its metered boundary (its Control Area), and supports system frequency in real time.

1.8 Commission or FERC

The Federal Energy Regulatory Commission.

1.9 Completed Application

An Application that satisfies all of the information and other requirements of the Guidelines, including any required deposit.

1.10 Control Area

An electric power system or combination of electric power systems to which a common automatic generation control scheme is applied in accordance with Good Utility Practice in order to:

- (A) match, at all times, the power output of the generators within the electric power system(s) and capacity and energy purchased from entities outside the electric power system(s), with the load within the electric power system(s);
- (B) maintain scheduled interchange with other Control Areas;
- (C) maintain the frequency of the electric power system(s) within reasonable limits; and
- (D) provide sufficient generating capacity to maintain operating reserves.

1.11 Curtailment

As the context requires, a reduction in Firm or Non-Firm Point-To-Point Transmission Service or Network Integration Transmission Service in response to a transfer capability shortage as a result of system reliability conditions.

1.12 Daily Service

Transmission Service reserved for a calendar day, which begins at 00:00 a.m. Central Prevailing Time and ends at 12:00 midnight Central Prevailing Time.

1.13 Delivering Party

The entity supplying capacity and energy to be transmitted at Point(s) of Receipt.

1.14 Designated Agent

Any entity that performs actions or functions required under the Guidelines on behalf of TVA, an Eligible Customer, or the Transmission Customer.

1.15 Direct Assignment Facilities

Facilities or portions of facilities that are constructed by TVA for the sole use/benefit of a particular Transmission Customer requesting service under the Guidelines. Direct Assignment Facilities shall be specified in the Service Agreement that governs service to the Transmission Customer.

1.16 Eligible Customer

Any electric utility (including TVA and any power marketer), Federal power marketing agency, or any person generating electric energy for sale for resale is an Eligible Customer under the Guidelines. Electric energy sold or produced by such entity may be electric energy produced in the United States, Canada or Mexico.

However, such entity is not eligible for Transmission Service that the Commission is prohibited from ordering by Sections 212(f), 212(h), and 212(j) of the Federal Power Act.

1.17 Facilities Study

A preliminary engineering design study conducted by TVA to determine the required modifications to TVA's Transmission System, including the estimated cost and scheduled completion date for such modifications, that will be required to provide the requested Transmission Service.

1.18 Facilities Study Agreement

An agreement between TVA and the Eligible Customer that sets forth the terms and conditions under which TVA agrees to perform the preliminary engineering design studies related to construction of modifications to TVA's Transmission System and under which the Eligible Customer agrees to compensate TVA for such studies.

1.19 Firm Point-To-Point Transmission Service

Transmission Service under these Guidelines that is reserved (Reserved Capacity) and scheduled between specified Points of Receipt and Delivery pursuant to Parts I and II of these Guidelines.

1.20 Good Utility Practice

Any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region, including those practices required by Federal Power Act section 215(a)(4).

1.21 Hourly Service

Transmission Service reserved for one or more sixty (60) minute intervals commencing on the clock hour in a calendar day.

1.22 Interruption

A reduction in Non-Firm Point-To-Point Transmission Service due to economic reasons pursuant to Section 14.7 (Curtailment or Interruption of Non-Firm Transmission Service).

1.23 Load Ratio Share

Ratio of a Transmission Customer's Network Load to TVA's total load computed in accordance with Sections 34.2 (Determination of Network Customer's Monthly Network Load) and 34.3 (Determination of TVA's Monthly Transmission System Load) of the Network Integration Transmission Service under Parts I and III of the Guidelines and calculated on a rolling average twelve month basis.

1.24 Load Shedding

The systematic reduction of system demand by temporarily decreasing load in response to transmission system or area capacity shortages, system instability, or voltage control considerations under Parts I and III of the Guidelines.

1.25 Long-Term Firm Point-To-Point Transmission Service

Firm Point-To-Point Transmission Service under Parts I and II of the Guidelines with a term of one year or more.

1.26 Monthly Service

Transmission Service reserved for a calendar month. A calendar month begins at 00:00 a.m. Central Prevailing Time on the first day of the month and ends at 12:00 midnight Central Prevailing Time on the last day of the month.

1.27 Native Load Customers

The municipal and cooperative distributors of TVA power and directly served industrial customers and Federal installations for which TVA has undertaken to plan, construct, and operate its system to provide reliable and economical power supply.

1.28 NERC Holiday

NERC Holidays currently are: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

1.29 Network Customer

An entity receiving Transmission Service pursuant to the terms of TVA's Network Integration Transmission Service under Parts I and III of the Guidelines.

1.30 NERC Standards

Reliability Standards promulgated by NERC.

1.31 Network Integration Transmission Service

The Transmission Service provided under Parts I and III of the Guidelines.

1.32 Network Load

The load that a Network Customer designates for Network Integration Transmission Service under Parts I and III of the Guidelines. The Network Customer's Network Load shall include all load served by the output of any Network Resources designated by the Network Customer. A Network Customer may elect to designate less than its total load as Network Load but may not designate only part of the load at a discrete Point of Delivery. Where an Eligible Customer has elected not to designate a particular load at discrete points of delivery as Network Load, the Eligible Customer is responsible for making separate arrangements under Parts I and II of the Guidelines for any Point-To-Point Transmission Service that may be necessary for such non-designated load.

1.33 Network Operating Agreement

An executed agreement that contains the terms and conditions under which the Network Customer shall operate its facilities and the technical and operational matters associated with the implementation of Network Integration Transmission Service under Parts I and III of the Guidelines.

1.34 Network Operating Committee

A group made up of representatives from the Network Customer(s) and TVA established to coordinate operating criteria and other technical considerations required for implementation of Network Integration Transmission Service under Parts I and III of these Guidelines.

1.35 Network Resource

Any designated generating resource owned, purchased or leased by a Network Customer under the Network Integration Transmission Service provisions of the Guidelines. Network Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis, except for purposes of fulfilling obligations under a reserve sharing program.

1.36 Network Upgrades

Modifications or additions to transmission-related facilities that are integrated with and support TVA's overall Transmission System for the general benefit of all users of such Transmission System.

1.37 Non-Firm Point-To-Point Transmission Service

Point-To-Point Transmission Service under the Guidelines that is reserved (Reserved Capacity) and scheduled on an as-available basis and is subject to Curtailment or Interruption as set forth in Section 14.7 (Curtailment or Interruption of Non-Firm Transmission Service) under Parts I and II of these Guidelines. Non-Firm Point-To-Point Transmission Service is available on a stand-alone basis for periods ranging from one hour to one month.

1.38 Non-Firm Sale

An energy sale for which receipt or delivery may be interrupted for any reason or no reason, without liability on the part of either the buyer or seller.

1.39 Open Access Same-Time Information System (OASIS)

The information system and standards of conduct contained in Part 37 of the Commission's regulations and all additional requirements implemented by subsequent Commission orders dealing with OASIS.

1.40 Optional Ancillary Services Load Ratio Share

Ratio of a Transmission Customer's Network Load to TVA's optional ancillary services load computed in accordance with Sections 34.2 (Determination of Network Customer's Monthly Network Load) and 34.4 (Determination of TVA's Monthly Optional Ancillary Services Load) of the Network Integration Transmission Service under Parts I and III of the Guidelines and calculated on a rolling average twelve month basis.

1.41 Part I

Guidelines definitions and common service provisions contained in Sections 1 through 11.

1.42 Part II

Guidelines Sections 12 through 27 pertaining to Point-To-Point Transmission Service in conjunction with the applicable Common Service Provisions of Part I and appropriate Schedules and Attachments.

1.43 Part III

Guidelines Sections 28 through 35 pertaining to Network Integration Transmission Service in conjunction with the applicable Common Service Provisions of Part I and appropriate Schedules and Attachments.

1.44 Parties

TVA and the Transmission Customer receiving service under the Guidelines.

1.45 Point(s) of Delivery

Point(s) on TVA's Transmission System where capacity and energy transmitted by TVA will be made available to the Receiving Party under the Guidelines. The Point(s) of Delivery shall be specified in accordance with the Service Agreement for Long-Term Firm service or in the Transmission Service reservation for Short-Term Firm or Non-Firm service.

1.46 Point(s) of Receipt

Point(s) of interconnection on TVA's Transmission System where capacity and energy will be made available to TVA by the Delivering Party under the Guidelines. The Point(s) of Receipt shall be specified in accordance with the Service Agreement for Long-Term Firm service or in the Transmission Service reservation for Short-Term Firm or Non-Firm service.

1.47 Point-To-Point Transmission Service

The reservation and transmission of capacity and energy on either a firm or non-firm basis from the Point(s) of Receipt to the Point(s) of Delivery under Parts I and II of the Guidelines.

1.48 Power Purchaser

The entity that is purchasing the capacity and energy to be transmitted under the Guidelines.

1.49 Pre-Confirmed Application

An Application that commits the Eligible Customer to execute a Service Agreement upon receipt of notification that the Transmission Provider can provide the requested Transmission Service.

1.50 Receiving Party

The entity receiving the capacity and energy transmitted by TVA to Point(s) of Delivery.

1.51 Redispatch Cost

The additional power supply costs resulting from modifying the dispatch of any generation facilities or purchased resources to a level other than that determined under TVA's applicable standard economic dispatch procedures, or revising the maintenance schedule of its generation or transmission facilities, in order to provide requested Transmission Service. This also includes incremental costs incurred by TVA resulting from increased environmental compliance costs in order to provide requested Transmission Service.

1.52 Regional Transmission Group (RTG)

A voluntary organization of transmission owners, transmission users and other entities approved by the Commission to efficiently coordinate transmission planning (and expansion), operation and use on a regional (and interregional) basis.

1.53 Reserved Capacity

The maximum amount of capacity and energy that TVA agrees to transmit for the Transmission Customer over TVA's Transmission System between the Point(s) of

Receipt and the Point(s) of Delivery under Parts I and II of the Guidelines. Reserved Capacity shall be expressed in terms of whole megawatts on a sixty (60) minute interval (commencing on the clock hour) basis.

1.54 Service Agreement

The initial agreement and any amendments or supplements thereto entered into by the Transmission Customer and TVA for service under the Guidelines.

1.55 Service Commencement Date

The date TVA begins to provide service pursuant to the terms of an executed Service Agreement.

1.56 Short-Term Firm Point-To-Point Transmission Service

Firm Point-To-Point Transmission Service under Parts I and II of the Guidelines with a term of less than one year.

1.57 System Condition

A specified condition on TVA's Transmission System or on a neighboring system, such as a constrained transmission element or flowgate, that may trigger Curtailment of Long-Term Firm Point-to-Point Transmission Service using the curtailment priority pursuant to Section 13.6 (Curtailment of Firm Transmission Service). Such conditions must be identified in the Transmission Customer's Service Agreement.

1.58 System Impact Study

An assessment by TVA of (i) the adequacy of the Transmission System to accommodate a request for either Firm Point-To-Point Transmission Service or Network Integration Transmission Service and (ii) whether any additional costs may be incurred in order to provide Transmission Service, including costs for modifications to the TVA Transmission System and Redispatch Costs.

1.59 System Impact Study Agreement

An agreement between TVA and the Eligible Customer that sets forth the terms and conditions under which TVA agrees to perform a System Impact Study and under which the Eligible Customer agrees to compensate TVA for such study.

1.60 Third-Party Sale

Any sale for resale in interstate commerce (interchange sale) by TVA or a Network Customer to a Power Purchaser that is not designated as part of Network Load under the Network Integration Transmission Service or is not part of the load of a Native Load Customer.

1.61 Transmission Customer

Any Eligible Customer (or its Designated Agent) that executes a Service Agreement with TVA. This term is used in the Part I Common Service Provisions to include customers receiving Transmission Service under Part II and Part III of these Guidelines.

1.62 Transmission Operator

The entity that operates transmission facilities, executes switching orders, and maintains configuration control over all Transmission System assets.

1.63 Transmission Service

As the context requires, Point-To-Point Transmission Service provided under Parts I and II of the Guidelines on a firm and non-firm basis or Network Integration Transmission Service provided under Parts I and III of the Guidelines.

1.64 Transmission Provider

The entity that provides Transmission Service to Transmission Customers on the Transmission System.

1.65 Transmission System

The facilities owned, controlled or operated by TVA that are used to provide Transmission Service under Parts I and II and Parts I and III of the Guidelines.

1.66 TVA

The Tennessee Valley Authority is a corporation created by and existing under and by virtue of the Tennessee Valley Authority Act of 1933, as amended.

1.67 TVA Business Day (Applies to Section 6.3)

Any day except Saturday, Sunday, or a weekday that is observed by TVA as a Federal Holiday. Federal holidays currently are New Year's Day, Birthday of Martin Luther King, Jr., Presidents Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, and Christmas Day.

1.68 TVA's Monthly Transmission System Peak

The maximum firm usage of TVA's Transmission System in a calendar month.

1.69 TVA's Transmission Planning Statement

Statement of TVA's voluntary support of the nine transmission planning principles in FERC Order 890. TVA's Transmission Planning Statement is posted on the TVA OASIS.

1.70 Weekly Service

Transmission Service reserved for a calendar week, which begins at 00:00 a.m. Central Prevailing Time Monday morning and ends at 12:00 midnight Central Prevailing Time on Sunday.

2 Initial Allocation and Renewal Procedures for Firm Service**2.1 Initial Allocation of Available Transfer Capability for Firm Service**

For purposes of determining whether existing capability on TVA's Transmission System is adequate to accommodate a request for firm service under these Guidelines, all Completed Applications for new firm Transmission Service received during the initial sixty (60) day period commencing with the date these Guidelines were initially placed in effect by TVA (January 1, 1997) will be deemed to have been filed simultaneously. A lottery system shall be used to assign priorities for Completed Applications filed simultaneously. All Completed Applications for firm Transmission Service received after the initial sixty (60) day period shall be assigned a priority pursuant to Section 13.2 (Reservation Priority).

2.2 Reservation Priority for Existing Firm Service Customers

- (A) Subject to paragraph (B), below, existing firm service customers (wholesale requirements and transmission-only, with a contract term of five years or more), have the right (i.e., the right of first refusal) to continue to take transmission service from TVA when the contract expires, rolls over, or is renewed. This transmission reservation priority is independent of whether the existing firm service customer continues to purchase capacity and energy from TVA or elects to purchase capacity and energy from another supplier. If at the end of the contract term TVA's Transmission System cannot accommodate all of the requests for transmission service, the existing firm service customer must agree to accept a contract term at least equal to a competing request by any new Eligible Customer for firm service and to pay the current charges for such service; provided that, the existing firm service customer shall have a right of first refusal at the end of its existing service only if the new contract is for five years or more. The existing firm service customer must provide notice to TVA whether it will exercise its right of first refusal no less than one year prior to the expiration date of its transmission service agreement. This transmission reservation priority for existing firm service customers is an ongoing right that may be exercised at the end of all firm contract terms of five years or longer by written notice to TVA not less than one year prior to the end of the contract term. As between existing firm service customers, when transmission capacity is limited, rollover rights of the Transmission Customer whose initial Transmission Service request predates the other Transmission Customers' initial requests shall have priority. Further provisions for processing Transmission Service rollover requests are stated in TVA's Business Practices. With respect to service agreements subject to a right of first refusal entered into prior to the effective date of TVA's Transmission Service Guidelines Fiscal Year 2009 Edition, unless otherwise expressly provided in the service agreements: (1) in order to roll over service agreements with less than five years left in their contract terms as of said effective date, notice requesting rollover must be provided not less than 60 days prior to the end of the contract term, and (2) in order to roll over service agreements with five years or more left in their contract terms as of said effective date, notice requesting rollover must be provided not less than one year prior to the end of the contract term.
- (B) Such existing firm service customers can obtain from TVA only that Transmission Service determined by TVA to be in excess of its needs to use the TVA Transmission System to carry out its statutory responsibilities to provide an ample supply of power to the TVA area at the lowest feasible cost in accordance with the TVA Act. Accordingly, any right (i.e., any right of first refusal) to continue to take Transmission Service from TVA when the contract expires, rolls over, or is renewed is not vested unless and until TVA determines anew that, for the requested additional term of service, TVA continues to have transmission capacity available in excess of its needs. If TVA determines that insufficient transmission capacity is available for such term, the existing firm service customer has no right to continue to take Transmission Service from the existing transmission capacity of the TVA Transmission System beyond its current contractual term of service. Such existing firm service customer may have a right (i.e., a right of first refusal)

for partial interim service, in accordance with Section 19.7 (Partial Interim Service) of these Guidelines. If there is sufficient time to construct and place in service facility additions, upgrades, or other modifications to the TVA Transmission System, such existing customer may also be able to continue to take the Transmission Service by paying for those facilities that TVA studies identify as being necessary for increasing the transmission capacity of the TVA Transmission System sufficiently so as to be able to grant the requested Transmission Service.

3 Ancillary Services

Ancillary Services are needed with Transmission Service to maintain reliability within and among the Control Areas affected by the Transmission Service. With Transmission Service provided by TVA, TVA will provide, and the Transmission Customer is required to purchase, the following Ancillary Services: (i) Scheduling, System Control and Dispatch and (ii) Reactive Supply and Voltage Control from Generation or Other Sources.

TVA will provide as requested the following Ancillary Services only to the Transmission Customer serving load within the TVA Control Area: (i) Regulation and Frequency Response, (ii) Energy Imbalance, (iii) Operating Reserve - Spinning, and (iv) Operating Reserve - Supplemental. With Transmission Service provided by TVA, the Transmission Customer serving load within TVA's Control Area is required to acquire these Ancillary Services, whether from TVA, from a third party, or by self-supply.

The Transmission Customer may not decline TVA's offer of Ancillary Services unless it reasonably demonstrates to TVA (applying Good Utility Practice) that it has acquired the Ancillary Services from another source. The Transmission Customer must list in its Application which Ancillary Services it will purchase from TVA. A Transmission Customer that exceeds its firm Reserved Capacity at any Point of Receipt or Point of Delivery or an Eligible Customer that uses Transmission Service at a Point of Receipt or Point of Delivery that it has not reserved is required to pay for all of the Ancillary Services identified in this section that were provided by TVA associated with the unreserved service. The Transmission Customer or Eligible Customer will pay for Ancillary Services based on the amount of transmission service it used but did not reserve.

The rate treatment and all related terms and conditions in the event of an unauthorized use of Ancillary Services by the Transmission Customer are specified in the applicable Ancillary Services schedules.

The specific Ancillary Services, prices and/or compensation methods are described in Schedules 1 through 6 that are attached to and made a part of the Guidelines. Three principal requirements apply to discounts for Ancillary Services provided by TVA in conjunction with its provision of transmission service as follows: (1) any offer of a discount made by TVA must be announced to all Eligible Customers solely by posting on the OASIS, (2) any customer-initiated requests for discounts (including requests by TVA for its own Third-Party Sales transactions) must occur solely by posting on the OASIS, and (3) once a discount is negotiated, details must be immediately posted on the OASIS. A discount agreed upon for an Ancillary Service must be offered for the same period to all Eligible Customers on TVA's system. Sections 3.1 through 3.6 below list the six Ancillary Services.

3.1 Scheduling, System Control and Dispatch Service

The rates and/or methodology are described in Schedule 1.

3.2 Reactive Supply and Voltage Control from Generation or Other Sources Service

The rates and/or methodology are described in Schedule 2.

3.3 Regulation and Frequency Response Service

Where applicable the rates and/or methodology are described in Schedule 3.

3.4 Energy Imbalance Service

Where applicable the rates and/or methodology are described in Schedule 4.

3.5 Operating Reserve - Spinning Reserve Service

Where applicable the rates and/or methodology are described in Schedule 5.

3.6 Operating Reserve - Supplemental Reserve Service

Where applicable the rates and/or methodology are described in Schedule 6.

4 Open Access Same-Time Information System (OASIS) and Standards of Conduct

TVA will provide an OASIS and implement standards of conduct consistent with the terms, conditions, and standards set forth in 18 CFR § 37 and 358 of the Commission's regulations (Open Access Same-Time Information Systems and Standards of Conduct for Transmission Providers) and 18 CFR §38 of the Commission's regulations (Business Practice Standards and Communication Protocols for Public Utilities).

In the event Available Transfer Capability as posted on the OASIS is insufficient to accommodate a request for firm Transmission Service, additional studies may be required as provided by these Guidelines pursuant to Sections 19 (Additional Study Procedures for Firm Point-to-Point Transmission Service Requests) and 32 (Additional Study Procedures for Network Integration Transmission Service Requests).

TVA has adopted and periodically revises business practices applicable to provision of Transmission Service. TVA shall post on OASIS and its public website an electronic link to rules, standards, and practices that (i) relate to the terms and conditions of transmission service, (ii) are not subject to a North American Standards Board (NAESB) copyright restriction, and (iii) are not otherwise included in these Guidelines. TVA shall post on OASIS and on its public website an electronic link to the NAESB website where any rules, standards and practices that are protected by copyright may be obtained. TVA shall also post on OASIS and its public website an electronic link to a statement of the process by which TVA shall add, delete or otherwise modify the rules, standards and practices that are not included in these Guidelines. Such process shall set forth the means by which TVA shall provide reasonable notice to Transmission Customers and Eligible Customers of any such additions, deletions, or modifications, the associated effective date, and any additional implementation procedures that TVA deems appropriate.

5 Reciprocity

A Transmission Customer receiving Transmission Service under these Guidelines agrees to provide comparable Transmission Service that it is capable of providing to TVA on similar terms and conditions over facilities used for the transmission of electric energy

owned, controlled or operated by the Transmission Customer and over facilities used for the transmission of electric energy owned, controlled or operated by the Transmission Customer's corporate Affiliates. A Transmission Customer that is a member of, or takes Transmission Service from, a power pool, Regional Transmission Group, Regional Transmission Organization (RTO), Independent System Operator (ISO), or other transmission organization approved by the Commission for the operation of transmission facilities also agrees to provide comparable Transmission Service to the transmission-owning members of such power pool and Regional Transmission Group, RTO, ISO or other transmission organization on similar terms and conditions over facilities used for the transmission of electric energy owned, controlled or operated by the Transmission Customer and over facilities used for the transmission of electric energy owned, controlled or operated by the Transmission Customer's corporate Affiliates.

This reciprocity requirement applies not only to the Transmission Customer that obtains Transmission Service under the Guidelines, but also to all parties to a transaction that involves the use of Transmission Service under the Guidelines, including the power seller, buyer and any intermediary, such as a power marketer. This reciprocity requirement also applies to any Eligible Customer that owns, controls or operates transmission facilities that uses an intermediary, such as a power marketer, to request Transmission Service under the Guidelines. If the Transmission Customer does not own, control or operate transmission facilities, it must include in its Application a sworn statement of one of its duly authorized officers or other representatives that the purpose of its Application is not to assist an Eligible Customer to avoid the requirements of this provision.

6 Billing, Payment and Suspension of Service

6.1 Billing Procedure

Unless otherwise agreed upon, within a reasonable time after the first day of each calendar month, TVA shall submit an invoice(s) to the Transmission Customer for the charges for all services furnished under the Guidelines during the preceding month.

The invoice shall be paid by the Transmission Customer within twenty (20) days after the date of the bill. All payments shall be made in immediately available funds payable to TVA, or by electronic transfer to an appropriate account designated by TVA.

Pending the availability of actual data, billings hereunder shall be based on estimates made by TVA, subject to true-up when actual data are known.

6.2 Interest on Unpaid Balances

Interest on any unpaid amounts (including amounts placed in escrow) shall be calculated in accordance with the methodology specified for interest on refunds in the Commission's regulations at 18 CFR § 35.19a(a)(2)(iii). Interest on delinquent amounts shall be calculated from the due date of the bill to the date of payment. TVA will submit an invoice to the Transmission Customer for such added charge, which shall be due and payable upon receipt. When payments are made by mail, bills shall be considered as having been paid on the date of receipt by TVA.

6.3 Customer Default

(A) **Customer Default for Non-Payment:** In the event the Transmission Customer fails, for any reason other than a billing dispute as described below, to make payment to TVA on or before the due date as described above, and such failure of payment is not corrected within ten (10) business days after TVA notifies the Transmission Customer of its intention to suspend Transmission Service, a default by the Transmission Customer shall be deemed to exist. Upon the occurrence of a default, TVA may suspend service under these Guidelines.

In the event of a billing dispute between TVA and the Transmission Customer, TVA will continue to provide service under the Service Agreement as long as the Transmission Customer (i) continues to make all payments not in dispute, and (ii) pays into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If the Transmission Customer fails to meet these two requirements for continuation of service, then TVA may provide notice to the Transmission Customer of its intention to suspend service as provided above.

(B) **Other Customer Default:** Suspension of Transmission Service may also be precipitated by failure to comply with other material terms and conditions of these Guidelines, the Service Agreement, or the Network Operating Agreement, if applicable. TVA will give the Transmission Customer thirty (30) calendar days notice of TVA's intention to suspend Transmission Service for any such failure; provided that TVA will give the Transmission Customer fifteen (15) calendar days notice for the Transmission Customer's failure to provide the required credit assurance it is notified to provide in accordance with Attachment L. TVA will not suspend Transmission Service under these Guidelines if the Transmission Customer corrects its performance within the applicable fifteen (15) or thirty (30) day period indicated in the notice.

7 Accounting for TVA's Use of the Guidelines

TVA shall record the following amounts, as outlined below.

7.1 Transmission Revenues

Include in a separate operating revenue account or subaccount the revenues TVA receives from Transmission Service when making Third-Party Sales under Parts I and II of the Guidelines.

7.2 Study Costs and Revenues

Include in a separate transmission operating expense account or subaccount, costs properly chargeable to expense that are incurred to perform any System Impact Studies or Facilities Studies which TVA conducts to determine if it must construct new transmission facilities or upgrades necessary for its own uses, including making Third-Party Sales under the Guidelines; and include in a separate operating revenue account or subaccount the revenues received for System Impact Studies or Facilities Studies performed when such amounts are separately stated and identified in the Transmission Customer's billing under the Guidelines.

8 Revision of Transmission Service Guidelines; Treatment of Previous Transmission Service Arrangements

8.1 Previous Firm Transmission Service Arrangements

Any Transmission Customer receiving firm transmission service under other transmission service agreements entered into prior to the date these Guidelines were initially placed in effect by TVA (January 1, 1997) will be able to continue to receive such transmission service for the remaining duration of such arrangements, subject to the terms and conditions contained therein.

8.2 Revision of Transmission Service Guidelines

The calculations to establish charges under these Guidelines may be updated on an annual basis. The terms and conditions under which Transmission Service is provided and the methodologies for establishing charges for the provision of Transmission Service are also subject to modification, as determined by TVA. If any administrative or procedural changes to Guidelines terms and conditions are implemented between published Guidelines editions, such changes will be posted on OASIS and subsequently reflected in the next published Guidelines edition.

Nothing contained in the Guidelines, any Service Agreement, or any Network Operating Agreement shall be construed as affecting in any way the ability of any Party receiving service under the Guidelines to exercise its rights under the Federal Power Act and pursuant to the Commission's rules and regulations promulgated thereunder.

9 Force Majeure and Indemnification

9.1 Force Majeure

An event of Force Majeure means any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any Curtailment, order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause reasonably beyond a Party's control. A Force Majeure event does not include an act of negligence or intentional wrongdoing by the Party claiming Force Majeure. Neither TVA nor the Transmission Customer will be considered in default as to any obligation under these Guidelines if prevented from fulfilling the obligation due to an event of Force Majeure, except that an event of Force Majeure shall not be deemed to prevent the performance of payment obligations under these Guidelines. However, a Party whose performance under these Guidelines is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under these Guidelines.

9.2 Indemnification

The Transmission Customer shall at all times indemnify, defend, and save TVA harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from TVA's performance of its obligations under these Guidelines on behalf of the Transmission Customer, except in cases of negligence or intentional wrongdoing by TVA.

9.3 Limitation of Liability

TVA will use Good Utility Practice to furnish the Transmission Service and Ancillary Services in accordance with these Guidelines, but does not guarantee uninterrupted Transmission Service or Ancillary Services. TVA shall not be liable for any claim for damage or loss attributable to TVA's exercise of its rights to interrupt, curtail, or reduce Transmission Service or Ancillary Services due to, but not limited to, the following:

- (A) Emergencies or Force Majeure and any other cause which TVA could not reasonably have foreseen and made provision against;
- (B) Any operating decisions that, in TVA's judgment, were necessary to maintain reliable operation and protect facilities of the TVA Transmission System and the interconnected electrical network;
- (C) Any operating steps taken by TVA in compliance with standards, rules, guidelines, or procedures established by NERC, the SERC Reliability Corporation (SERC), or any entity to which TVA belongs that is authorized to promulgate regional or national reliability standards;
- (D) Operation of devices installed for power system protection;
- (E) Necessary or routine maintenance, repairs, replacements, or installations of equipment, or the investigation of such equipment;
- (F) System operating conditions, including System Conditions, if any, during which Transmission Service is interrupted or curtailed as set forth in these Guidelines or the Service Agreement between TVA and the Transmission Customer; or TVA's exercise of its rights to interrupt, curtail, or reduce Transmission Service or Ancillary Services in order to meet commitments of higher priority and as otherwise provided in these Guidelines or in the Service Agreement.

10 Creditworthiness

TVA's creditworthiness procedures are specified in Attachment L.

11 Dispute Resolution Procedures

11.1 Internal Dispute Resolution Procedures

Any dispute between a Transmission Customer and TVA involving Transmission Service under the Guidelines shall be referred to a designated senior representative of TVA and a senior representative of the Transmission Customer for resolution on an informal basis as promptly as practicable. In the event the designated representatives are unable to resolve the dispute within thirty (30) days (or such other period as the Parties may agree upon), by mutual agreement such dispute may be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below.

11.2 External Arbitration Procedures

Any arbitration initiated under the Guidelines shall be conducted before a single neutral arbitrator appointed by the Parties. If the Parties fail to agree upon a single arbitrator within ten (10) days of the referral of the dispute to arbitration, each Party shall choose one arbitrator who shall sit on a three-member arbitration panel. The two arbitrators so chosen shall within twenty (20) days select a third arbitrator to

chair the arbitration panel. In either case, the arbitrators shall be knowledgeable in electric utility matters, including electric transmission and bulk power issues, and shall not have any current or past substantial business or financial relationships with any Party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the Parties an opportunity to be heard and, except as otherwise provided herein, shall generally conduct the arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association.

11.3 Arbitration Decisions

Unless otherwise agreed, the arbitrator(s) shall render a decision within ninety (90) days of appointment and shall notify the Parties in writing of such decision and the reasons therefor. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the Guidelines and any Service Agreement entered into under the Guidelines and shall have no power to modify or change any of the above in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court having jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in the Federal Arbitration Act and/or the Administrative Dispute Resolution Act.

11.4 Costs

Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable:

- (A) the cost of the arbitrator chosen by the Party to sit on the three member panel and one half of the cost of the third arbitrator chosen or
- (B) one half the cost of the single arbitrator jointly chosen by the Parties.

11.5 Rights Under the Federal Power Act

Nothing in this section shall restrict the rights of any Party to file a complaint with the Commission under relevant provisions of the Federal Power Act.

II. POINT-TO-POINT TRANSMISSION SERVICE

Preamble

TVA will provide Firm and Non-Firm Point-To-Point Transmission Service pursuant to the applicable terms and conditions of these Guidelines. Point-To-Point Transmission Service is for the receipt of capacity and energy at designated Point(s) of Receipt and the transfer of such capacity and energy to designated Point(s) of Delivery.

12 Type of Transmission Service

The type of Transmission Service provided in accordance with these Guidelines will be specified in a Service Agreement between TVA and the Eligible Customer. Under Parts I and II of these Guidelines, TVA will make available Long-Term Firm Point-To-Point Transmission Service, Short-Term Firm Point-To-Point Transmission Service and Non-Firm Point-To-Point Transmission Service.

13 Nature of Firm Point-To-Point Transmission Service

Firm Point-To-Point Transmission Service provides for the reserved use of transmission capability on TVA's Transmission System deemed to be available above TVA's own planned use of the TVA Transmission System to meet Native Load Customers' needs for reliable and economical service, to meet other previously arranged firm commitments, and to account for reliability considerations affecting the TVA Transmission System and interconnections with others.

13.1 Term

The minimum term of Firm Point-To-Point Transmission Service shall be one day and the maximum term shall be specified in the Service Agreement.

(A) Long-Term Firm Transmission Service

Long-Term Firm Transmission Service is made available for a minimum duration of one year and a maximum duration specified in the Service Agreement.

(B) Short-Term Firm Transmission Service

Short-Term Firm Transmission Service is made available for a minimum duration of one day and a maximum duration of less than one year.

13.2 Reservation Priority

- (A)** Long-Term Firm Point-To-Point Transmission Service shall be available on a first-come, first-served basis (i.e., in the chronological sequence in which each Transmission Customer has reserved service).
- (B)** Reservations for Short-Term Firm Point-To-Point Transmission Service will be conditional based upon the length of the requested transaction or reservation. However, Pre-Confirmed Applications for Short-Term Point-to-Point Transmission Service will receive priority over earlier-submitted requests that are not Pre-Confirmed and that have equal or shorter duration. Among requests or reservations with the same duration and, as relevant, confirmation status, (pre-confirmed, confirmed, or not confirmed), priority will be given to an Eligible Customer's request or reservation that offers the highest price, followed by the earliest date and time of the request or reservation.
- (C)** If the Transmission System becomes oversubscribed, higher priority requests for service may preempt competing reservations up to the following conditional reservation deadlines: by 12:00 noon Central Prevailing Time one day before the commencement of Daily Service, by 12:00 noon Central Prevailing Time one week before the commencement of Weekly Service, and by 12:00 noon Central Prevailing Time 30 days before the commencement of Monthly Service. Before the conditional reservation deadline, if Available Transfer Capability is insufficient to satisfy all requests and reservations, an Eligible Customer with a conditional reservation for shorter term firm service or equal duration service and lower price has the right of first refusal to match any longer short-term firm request or equal duration service with a higher price before losing its reservation priority. A

longer term competing request for Short-Term Firm Point-To-Point Transmission Service will be granted if the Eligible Customer with the right of first refusal does not agree to match the competing request within 24 hours (or earlier if necessary to comply with the scheduling deadlines provided in Section 13.8 (Scheduling of Firm Point-to-Point Transmission Service) from being notified by TVA of a longer-term competing request for Short-Term Firm Point-To-Point Transmission Service. When a longer duration request preempts multiple shorter duration reservations, the shorter duration reservations shall have simultaneous opportunities to exercise the right of first refusal. Duration, price, and time of response will be used to determine the order by which the multiple shorter duration reservations will be able to exercise the right of first refusal. After the conditional reservation deadline, service will commence pursuant to the terms of Parts I and II of the Guidelines.

- (D) Firm Point-To-Point Transmission Service will always have a reservation priority over Non-Firm Point-To-Point Transmission Service under the Guidelines. All Long-Term Firm Point-To-Point Transmission Service will have equal reservation priority with Native Load Customers and Network Customers. Reservation priorities for existing firm service customers are provided in Section 2.2 (Reservation Priority for Existing Firm Service Customers).

13.3 Use of Firm Transmission Service by TVA

TVA will be subject to the rates, terms and conditions of Parts I and II of these Guidelines when making Third-Party Sales under agreements executed on or after the Guidelines were initially placed in effect by TVA (January 1, 1997). TVA will maintain separate accounting, pursuant to Section 7 (Accounting for TVA's Use of the Guidelines), for any use of the Point-To-Point Transmission Service to make Third-Party Sales.

13.4 Service Agreements

TVA shall offer the applicable standard form Firm Point-To-Point Transmission Service Agreement (Attachment A) for Transmission Service from Available Transfer Capability to an Eligible Customer when it submits a Completed Application for Firm Point-To-Point Transmission Service. A condition of an Eligible Customer's acceptance of the Service Agreement is that such customer will submit Transmission Service reservations and will provide tagging information that meets the specifications of the applicable NERC Standards. An Eligible Customer that uses Transmission Service at a Point of Receipt or Point of Delivery that it has not reserved and that has not executed a Service Agreement will be deemed, for purposes of assessing any appropriate charges and penalties, to have executed the appropriate Service Agreement. The Service Agreement shall, when applicable, specify any conditional curtailment options selected by the Transmission Customer. Where the Service Agreement contains conditional curtailment options and is subject to a biennial reassessment as described in Section 15.3 (Obligation to Provide Transmission Service that Requires Expansion or Modification of the Transmission System, Redispatch, or Conditional Curtailment), TVA shall provide the Transmission Customer notice of any changes to the curtailment conditions no less than 90 days prior to the date for imposition of new curtailment conditions.

Concurrent with such notice, TVA shall provide the Transmission Customer with the reassessment study and a narrative description of the study, including the reasons for changes to the number of hours per year or System Conditions under which conditional curtailment may occur.

13.5 Transmission Customer Obligations for Facility Additions or Redispatch Costs

In cases where TVA determines that the Transmission System is not capable of providing Firm Point-To-Point Transmission Service without (1) degrading or impairing the reliability of service to Native Load Customers, Network Customers and other Transmission Customers taking Firm Point-To-Point Transmission Service, or (2) interfering with TVA's ability to meet prior firm contractual commitments to others, TVA will be obligated to expand or upgrade its Transmission System pursuant to the terms of Section 15.3 (Obligation to Provide Transmission Service that Requires Expansion or Modification of the Transmission System, Redispatch, or Conditional Curtailment). The Transmission Customer must agree to compensate TVA for any necessary transmission facility modifications pursuant to the terms of Section 27 (Compensation for Modifications and Redispatch Costs). To the extent TVA can relieve any system constraint by redispatching TVA's resources, it shall do so, provided that the Eligible Customer agrees to compensate TVA pursuant to the terms of Section 27 (Compensation for Modifications and Redispatch Costs) and agrees to either (i) compensate TVA for any necessary transmission facility additions, or (ii) accept the service subject to a biennial reassessment by TVA of redispatch requirements as described in Section 15.3 (Obligation to Provide Transmission Service that Requires Expansion or Modification of the Transmission System, Redispatch, or Conditional Curtailment). Any Redispatch Costs or Network Upgrade or Direct Assignment Facilities costs to be charged to the Transmission Customer on an incremental basis under the Guidelines will be specified in the Service Agreement prior to initiating service.

13.6 Curtailment of Firm Transmission Service

In the event that a Curtailment on TVA's Transmission System, or a portion thereof, is required to maintain reliable operation of such system and the systems directly and indirectly interconnected with TVA's Transmission System, Curtailments will be made, using the applicable NERC Standards, on a non-discriminatory basis to the transaction(s) that effectively relieve the constraint. TVA may elect to implement such Curtailments pursuant to the Transmission Loading Relief procedures specified in Attachment K.

If multiple transactions require Curtailment, to the extent practicable and consistent with Good Utility Practice, TVA will curtail service to Network Customers and Transmission Customers taking Firm Point-To-Point Transmission Service on a basis comparable to the curtailment of service to TVA's Native Load Customers. TVA also will discontinue or reduce service to the firm Transmission Customer to the extent that deliveries for transmission are discontinued or reduced by others at the Point(s) of Receipt or Point(s) of Delivery. This shall not relieve the Transmission Customer of payment obligations to TVA. All Curtailments will be made on a non-discriminatory basis, however, Non-Firm Point-To-Point Transmission Service shall be curtailed (or interrupted) before firm Transmission Service. Long-Term Firm Point-to-Point service subject to conditions described in

Section 15.3 (Obligation to Provide Transmission Service that Requires Expansion or Modification of the Transmission System, Redispatch, or Conditional Curtailment) shall be curtailed with secondary service in cases where the conditions apply, but otherwise will be curtailed on a pro rata basis with other firm Transmission Service. TVA reserves the right to curtail, in whole or in part, any firm Transmission Service provided under the Guidelines when, in TVA's sole discretion, an emergency or other unforeseen condition threatens to impair or degrade the reliability of its Transmission System. TVA will notify all affected Transmission Customers in a timely manner of any scheduled Curtailments to the extent practicable and consistent with Good Utility Practice. When advance notice cannot be provided by TVA consistent with Good Utility Practice, the Transmission Customer shall make the required reductions immediately upon request by TVA.

13.7 Classification of Firm Transmission Service:

- (A)** The Transmission Customer taking Firm Point-To-Point Transmission Service may (1) change its Points of Receipt and Points of Delivery to obtain service on a non-firm basis consistent with the terms of Section 22.1 (Modifications on a Non-Firm Basis) or (2) request a modification of the Points of Receipt or Points of Delivery on a firm basis pursuant to the terms of Section 22.2 (Modifications on a Firm Basis).
- (B)** The Transmission Customer may purchase Transmission Service to make sales of capacity and energy from multiple generating units that are on TVA's Transmission System. For such a purchase of Transmission Service, the resources will be designated as multiple Points of Receipt, unless the multiple generating units are at the same generating plant in which case the units would be treated as a single Point of Receipt.
- (C)** TVA shall provide firm deliveries of capacity and energy from the Point(s) of Receipt to the Point(s) of Delivery. Each Point of Receipt at which firm transfer capability is reserved by the Transmission Customer shall be set forth in the Firm Point-To-Point Transmission Service Agreement for Long-Term Firm Transmission Service along with a corresponding capacity reservation associated with each Point of Receipt. Points of Receipt and corresponding capacity reservations shall be as mutually agreed upon by the Parties for Short-Term Firm Transmission. Each Point of Delivery at which firm transfer capability is reserved by the Transmission Customer shall be set forth in the Firm Point-To-Point Transmission Service Agreement for Long-Term Firm Transmission Service along with a corresponding capacity reservation associated with each Point of Delivery. Points of Delivery and corresponding capacity reservations shall be as mutually agreed upon by the Parties for Short-Term Firm Transmission. The sum of the capacity reservations at the Point(s) of Delivery shall be the Transmission Customer's Reserved Capacity. The Transmission Customer will be billed for its Reserved Capacity under the terms of SCHEDULE 7. The Transmission Customer may not exceed its firm Reserved Capacity at any Point of Receipt or Point of Delivery except as otherwise specified in Section 22 (Changes in Service Specifications). In the event that a Transmission Customer (including Third-Party Sales by TVA) exceeds its firm Reserved Capacity at any Point of Receipt or Point of Delivery or uses Transmission Service at a Point of Receipt or Point of Delivery that it has

not reserved, the Transmission Customer will pay for the amount that exceeds the Reserved Capacity as specified in SCHEDULE 7. The payment of this amount for unauthorized use shall be subject to the same terms and conditions as payment for Transmission Service as described in Section 6 (Billing, Payment and Suspension of Service).

13.8 Scheduling of Firm Point-To-Point Transmission Service

Unless and until TVA adopts another scheduling method, schedule requests and notification of schedule acceptance or non-acceptance shall be by electronic communication.

Transmission Service reservations, along with tagging information as specified in the applicable NERC Standards, for each hour that capacity and energy is to be delivered by TVA in accordance with these Guidelines shall be provided to:

Transmission & Interchange Services
Tennessee Valley Authority
1101 Market Street, PCC 2A
Chattanooga, Tennessee 37402-2801
Telephone: (423) 697-4124

Schedules for the Transmission Customer's Firm Point-To-Point Transmission Service must be submitted to TVA no later than 4:00 p.m. Central Prevailing Time of the day prior to commencement of such service. Schedules submitted after 4:00 p.m. Central Prevailing Time will be accommodated, if practicable. Hour-to-hour schedules of any capacity and energy that is to be delivered must be stated in increments of 1,000 kW per hour. Transmission Customers within the TVA service area with multiple requests for Transmission Service at a Point of Receipt, each of which is under 1,000 kW per hour, may consolidate their service requests at a common Point of Receipt into units of 1,000 kW per hour for scheduling and billing purposes. Scheduling changes will be permitted up to twenty (20) minutes before the start of the schedule provided that such changes can be practicably accommodated and the Delivering Party and Receiving Party also agree to the schedule modification. A scheduling change consists of a request to modify the kilowatts scheduled on a path in one or more hours in a day. TVA will confirm with the Delivering Party's system operator, hour-to-hour schedules equal to those furnished by the Receiving Party (unless reduced for losses) and shall deliver the capacity and energy provided by such schedules. Should the Transmission Customer, Delivering Party or Receiving Party revise or terminate any schedule, such party shall immediately notify TVA, and TVA shall have the right to adjust accordingly the schedule for capacity and energy to be received and to be delivered.

14 Nature of Non-Firm Point-To-Point Transmission Service

Non-Firm Point-To-Point Transmission Service provides for the reserved use of transmission capability on TVA's Transmission System on an interruptible basis to the extent transmission system capability is available for the delivery of capacity and energy after TVA's use of the TVA Transmission System to meet Native Load Customers' needs for reliable and economical service, to meet firm commitments, and to account for reliability considerations affecting the TVA Transmission System and interconnections with others.

14.1 Term

Non-Firm Point-To-Point Transmission Service will be available for periods ranging from one (1) hour to one (1) month and will be provided from Available Transfer Capability. However, a Transmission Customer purchasing Non-Firm Point-To-Point Transmission Service will be entitled to reserve a sequential term of service of equal capacity (such as a sequential monthly term without having to wait for the initial term to expire before requesting another monthly term) so that the total time period for which the reservation applies is greater than one month, subject to the requirements of Section 18.3 (Reservation of Non-Firm Point-To-Point Transmission Service).

14.2 Reservation Priority

Non-Firm Point-To-Point Transmission Service shall be available from transfer capability in excess of that needed for reliable and economical service to Native Load Customers, Network Customers and other Transmission Customers taking Long-Term and Short-Term Firm Point-To-Point Transmission Service. A higher priority will be assigned first to non-firm requests or reservations with a longer duration of service and second to Pre-Confirmed Applications. In the event the Transmission System is constrained, competing non-firm requests of the same confirmation status and equal duration will be prioritized based on the highest price offered by the Eligible Customer for the Transmission Service. Eligible Customers that have already reserved shorter term non-firm service have the right of first refusal to match any longer term non-firm request before being preempted. A longer term competing request for Non-Firm Point-To-Point Transmission Service will be granted if the Eligible Customer with the right of first refusal does not agree to match the competing request: (a) immediately for hourly Non-Firm Point-To-Point Transmission Service after notification by TVA; and, (b) within 24 hours (or earlier if necessary to comply with the scheduling deadlines provided in Section 14.6 (Scheduling of Non-Firm Point-To-Point Transmission Service) for Non-Firm Point-To-Point Transmission Service other than hourly transactions after notification by TVA. Transmission Service for Network Customers from resources other than designated Network Resources will have a higher reservation priority than any Non-Firm Point-To-Point Transmission Service. Non-Firm Point-To-Point Transmission Service over Secondary Receipt and Delivery Point(s) will have the lowest reservation priority under the Guidelines.

14.3 Use of Non-Firm Point-To-Point Transmission Service by TVA

TVA will be subject to the rates, terms and conditions of Parts I and II of the Guidelines when making (i) Third-Party Sales under agreements executed on or after the Guidelines were initially placed in effect by TVA (January 1, 1997) or (ii) new Third-Party Sales under agreements executed prior to the aforementioned date. TVA will maintain separate accounting, pursuant to Section 7 (Accounting for TVA's Use of the Guidelines), for any use of Non-Firm Point-To-Point Transmission Service to make Third-Party Sales.

14.4 Service Agreements

TVA shall offer a standard form Non-Firm Point-To-Point Transmission Service Agreement (Attachment B) for Transmission Service from Available Transfer Capability to an Eligible Customer when it first submits a Completed Application for Non-Firm Point-To-Point Transmission Service pursuant to the Guidelines. A condition of an Eligible Customer's acceptance of the Service Agreement is that such customer will submit Transmission Service reservations and will provide tagging information that meets the specifications of the applicable NERC Standards.

14.5 Classification of Non-Firm Point-To-Point Transmission Service

Non-Firm Point-To-Point Transmission Service shall be offered under terms and conditions contained in Parts I and II of the Guidelines. TVA undertakes no obligation under the Guidelines to plan its Transmission System in order to have sufficient capacity for Non-Firm Point-To-Point Transmission Service. Parties requesting Non-Firm Point-To-Point Transmission Service for the transmission of firm power do so with the full realization that such service is subject to availability and to Curtailment or Interruption under the terms of the Guidelines. The sum of the capacity reservations at the Point(s) of Delivery shall be the Transmission Customer's Reserved Capacity. The Transmission Customer will be billed for its Reserved Capacity under the terms of SCHEDULE 8. In the event that a Transmission Customer (including TVA when making Third-Party Sales) exceeds its non-firm Reserved Capacity, the Transmission Customer will pay for the amount that exceeds the Reserved Capacity as specified in SCHEDULE 8. The payment of this amount for unauthorized use shall be subject to the same terms and conditions as payment for Transmission Service as described in Section 6 (Billing, Payment and Suspension of Service). Non-Firm Point-To-Point Transmission Service shall include transmission of energy on an Hourly Service basis and transmission of short-term capacity and energy on a Daily Service, Weekly Service, or Monthly Service basis, but shall not exceed one month's reservation for any one Application, under SCHEDULE 8.

14.6 Scheduling of Non-Firm Point-To-Point Transmission Service

Unless and until TVA adopts another scheduling method, schedule requests and notification of schedule acceptance or non-acceptance shall be by electronic communication.

Transmission Service reservations, along with tagging information as specified in the applicable NERC Standards, for each hour that capacity and energy is to be delivered by TVA in accordance with these Guidelines shall be provided to:

Transmission & Interchange Services
Tennessee Valley Authority
1101 Market Street, PCC 2A
Chattanooga, Tennessee 37402-2801
Telephone: (423) 697-4124

Schedules for the Transmission Customer's Non-Firm Point-To-Point Transmission Service must be submitted to TVA no later than 4:00 p.m. Central Prevailing Time

of the day prior to commencement of such service. Schedules submitted after 4:00 p.m. Central Prevailing Time will be accommodated, if practicable. Hour-to-hour schedules of any capacity and energy that is to be delivered must be stated in increments of 1,000 kW per hour. Transmission Customers within the TVA service area with multiple requests for Transmission Service at a Point of Receipt, each of which is under 1,000 kW per hour, may consolidate their service requests at a common Point of Receipt into units of 1,000 kW per hour for scheduling and billing purposes. Scheduling changes will be permitted up to twenty (20) minutes before the start of the schedule provided that such changes can be practicably accommodated and the Delivering Party and Receiving Party also agree to the schedule modification. A scheduling change consists of a request to modify the kilowatts scheduled on a path in one or more hours in a day. TVA will confirm with the Delivering Party's system operator, hour-to-hour schedules equal to those furnished by the Receiving Party (unless reduced for losses) and shall deliver the capacity and energy provided by such schedules. Should the Transmission Customer, Delivering Party or Receiving Party revise or terminate any schedule, such party shall immediately notify TVA, and TVA shall have the right to adjust accordingly the schedule for capacity and energy to be received and to be delivered.

14.7 Curtailment or Interruption of Non-Firm Transmission Service

TVA reserves the right to curtail, in whole or in part, Non-Firm Point-To-Point Transmission Service provided under the Guidelines for reliability reasons when an emergency or other unforeseen condition threatens to impair or degrade the reliability of its Transmission System or the systems directly and indirectly interconnected with TVA's Transmission System. TVA may elect to implement such Curtailments pursuant to the Transmission Loading Relief procedures specified in Attachment K. TVA reserves the right to interrupt, in whole or in part, Non-Firm Point-To-Point Transmission Service provided under the Guidelines for economic reasons in order to accommodate (1) a request for Firm Point-To-Point Transmission Service, (2) a request for Non-Firm Point-To-Point Transmission Service of greater duration, (3) a request for Non-Firm Point-To-Point Transmission Service of equal duration with a higher price, (4) transmission service for Network Customers from non-designated resources, (5) TVA's use of the transmission system to provide reliable and economical service to its Native Load Customers, or (6) transmission service for Firm Point-to-Point Transmission Service during conditional curtailment periods as described in Section 15.3 (Obligation to Provide Transmission Service that Requires Expansion or Modification of the Transmission System, Redispatch or Conditional Curtailment). TVA also will discontinue or reduce service to the Transmission Customer to the extent that deliveries for transmission are discontinued or reduced by others at the Point(s) of Receipt or Point(s) of Delivery. This shall not relieve the Transmission Customer of payment obligations to TVA. Where required, Curtailments (using the applicable NERC Standards) or Interruptions will be made on a non-discriminatory basis to the transaction(s) that effectively relieve the constraint, however, Non-Firm Point-To-Point Transmission Service shall be curtailed (or interrupted) before firm Transmission Service. If multiple transactions require Curtailment or Interruption, to the extent practicable and consistent with Good Utility Practice, Curtailments or Interruptions will be made to transactions of the shortest term (e.g., Hourly Service non-firm transactions will be curtailed or interrupted before Daily Service non-firm transactions and Daily Service non-firm transactions will be curtailed or interrupted

before Weekly Service non-firm transactions). Transmission Service for Network Customers from resources other than designated Network Resources will have a higher priority than any Non-Firm Point-To-Point Transmission Service under the Guidelines. Non-Firm Point-To-Point Transmission Service over Secondary Receipt and Delivery Points will have a lower Curtailment or Interruption priority than any Non-Firm Point-To-Point Transmission Service under the Guidelines. TVA will notify all affected Transmission Customers in a timely manner of any scheduled Curtailments to the extent practicable and consistent with Good Utility Practice. When advance notice cannot be provided by TVA consistent with Good Utility Practice, the Transmission Customer shall make the required reductions immediately upon request by TVA.

15 Service Availability for Firm and Non-Firm Transmission Service

15.1 General Conditions

TVA will provide from Available Transfer Capability Firm and Non-Firm Point-To-Point Transmission Service over, on or across its Transmission System to any Transmission Customer that has met the requirements of Section 16 (Transmission Customer Responsibilities).

15.2 Determination of Available Transfer Capability

A description of TVA's specific methodology for assessing Available Transfer Capability posted on TVA's OASIS (Section 4 (Open Access Same-Time Information System (OASIS) and Standards of Conduct) is contained in Attachment C of the Guidelines. In the event sufficient transfer capability may not exist to accommodate a firm service request, TVA will, when requested, respond by performing a System Impact Study.

15.3 Obligation to Provide Transmission Service that Requires Expansion or Modification of the Transmission System, Redispatch, or Conditional Curtailment

- (A)** If TVA determines that it cannot accommodate a Completed Application for Firm Point-To-Point Transmission Service because of insufficient capability on its Transmission System, TVA will use due diligence to expand or modify its Transmission System to provide the requested Firm Transmission Service, provided the Transmission Customer agrees to compensate TVA for such costs pursuant to the terms of Section 27 (Compensation for Modifications and Redispatch Costs). TVA will conform to Good Utility Practice in determining the need for new facilities and in the design and construction of such facilities. This obligation applies only to those facilities that TVA has the right to expand or modify.
- (B)** If TVA determines that it cannot accommodate a Completed Application for Long-Term Firm Point-to-Point Transmission Service because of insufficient capability on its Transmission System, but nevertheless determines it is able, using due diligence, to provide redispatch from its own resources without (i) degrading or impairing the reliability of service to Native Load Customers, Network Customers, and other Transmission Customers taking firm Point-to-Point Transmission Service or (ii) interfering with TVA's ability to meet other prior firm contractual commitments to others, so as to

accommodate such request for Long-Term Firm Point-to-Point Transmission Service, TVA will offer such redispatch service to the Transmission Customer. If the Transmission Customer accepts such service, it will be available until (i) Network Upgrades are completed for the Transmission Customer, (ii) TVA determines through a biennial reassessment that it can no longer reliably provide the redispatch, or (iii) the Transmission Customer terminates the service because of redispatch changes resulting from the reassessment. TVA shall not unreasonably deny self-provided redispatch or redispatch arranged by the Transmission Customer from a third party resource.

- (C) If TVA determines that it cannot accommodate a Completed Application for Long-Term Firm Point-to-Point Transmission Service because of insufficient capability on its Transmission System, but nevertheless determines that it can accommodate such request on a conditional basis as described below, without (i) degrading or impairing the reliability of service to Native Load Customers, Network Customers, and other Transmission Customers taking Firm Point-to-Point Transmission Service or (ii) interfering with TVA's ability to meet other prior firm contractual commitments to others, TVA will offer the Firm Transmission Service with the condition that TVA may curtail the service prior to the curtailment of other Firm Transmission Service for a specified number of hours per year or during System Condition(s) as specified by TVA. If the Transmission Customer accepts the service, TVA will use due diligence to provide the service until (i) Network Upgrades are completed for the Transmission Customer, (ii) TVA determines through a biennial reassessment that it can no longer reliably provide such service, or (iii) the Transmission Customer terminates the service because the reassessment increased the number of hours per year of conditional curtailment or changed the System Condition(s).
- (D) TVA shall be required to construct or cause to be constructed only the necessary modifications (including Direct Assignment Facilities and Network Upgrades) after satisfaction of all of the following conditions:
- (I) TVA has received the executed Service Agreement from the Eligible Customer under which the Eligible Customer has agreed to pay TVA for the cost of any modifications. (Due to limitations on its borrowing authority under the TVA Act, TVA reserves the right to require payment in advance sufficient to cover the costs of modifications.)
 - (II) TVA has received payment in full or other reasonable security as provided in Section 19 (Additional Study Procedures for Firm Point-to-Point Transmission Service Requests) for any necessary studies.
 - (III) TVA has obtained all necessary rights-of-way or other property rights and any necessary legal and regulatory approvals to construct, own, and operate the transmission facilities. (TVA will make all reasonable efforts to obtain all necessary rights-of-way or other property rights and any necessary legal and regulatory approvals to construct, own, and operate the required transmission facilities.)

- (IV) The Transmission Customer shall cooperate with TVA in construction of the required facilities and shall take all reasonable steps to assist TVA in obtaining necessary permits, authorizations, and rights-of-way.

TVA will continue to own any and all modifications built by it (including Direct Assignment Facilities and Network Upgrades).

15.4 Deferral of Service

TVA may defer providing service until it completes construction of new transmission facilities or upgrades needed to provide Firm Point-To-Point Transmission Service whenever TVA determines that providing the requested service would, without such new facilities or upgrades, impair or degrade reliability to any existing firm services.

15.5 Real Power Losses

Real Power Losses are associated with all Transmission Service. TVA is not obligated to provide Real Power Losses. The Transmission Customer is responsible for replacing losses associated with all Transmission Service as calculated by TVA or for receiving a reduced amount of capacity and energy upon delivery to account for losses. TVA may agree to supply the amount of losses to be absorbed on the TVA Transmission System, provided the Transmission Customer compensates TVA for such provision of losses at TVA's indicated charges. If the Transmission Customer desires to provide the losses or have a third party provide them, the Transmission Customer shall notify TVA of the sources and Point(s) of Receipt. Otherwise, the amount of power and energy actually transmitted from the Point(s) of Receipt to the Point(s) of Delivery shall be the amount received by TVA for delivery less transmission losses on the TVA Transmission System. The percentage value of losses shall be three (3) percent based on average losses on the TVA Transmission System.

16 Transmission Customer Responsibilities

16.1 Conditions Required of Transmission Customers

Point-To-Point Transmission Service shall be provided by TVA only if the following conditions are satisfied by the Transmission Customer:

- (A) The Transmission Customer has pending a Completed Application for service;
- (B) The Transmission Customer meets the creditworthiness criteria set forth in Section 10 (Creditworthiness);
- (C) The Transmission Customer will have arrangements in place for any other transmission service necessary to effect the delivery from the generating source to TVA (and for any other transmission service necessary after delivery from the TVA Transmission System) prior to the time service under Parts I and II of the Guidelines commences;
- (D) The Transmission Customer agrees to pay for any facilities constructed and chargeable to such Transmission Customer under Parts I and II of the

Guidelines, as specified in Section 15 (Service Availability for Firm and Non-Firm Transmission Service), whether or not the Transmission Customer takes service for the full term of its reservation;

- (E) The Transmission Customer provides any additional information required by TVA; and
- (F) The Transmission Customer has executed a Point-To-Point Service Agreement.

16.2 Transmission Customer Responsibility for Third-Party Arrangements

Any scheduling arrangements that may be required by other electric systems shall be the responsibility of the Transmission Customer requesting service. The Transmission Customer shall provide, unless waived by TVA, notification to TVA identifying such systems and authorizing them to schedule the capacity and energy to be transmitted by TVA pursuant to Parts I and II of the Guidelines on behalf of the Receiving Party at the Point of Delivery or the Delivering Party at the Point of Receipt. However, TVA will undertake reasonable efforts to assist the Transmission Customer in making such arrangements, including without limitation, providing any information or data required by such other electric system consistent with Good Utility Practice.

17 Procedures for Arranging Firm Point-To-Point Transmission Service

17.1 Application for Firm Service

A request for Firm Point-To-Point Transmission Service for periods of one year or longer must contain a written Application at least sixty (60) days in advance of the calendar month in which service is to commence.

TVA will consider requests for such firm service on shorter notice when feasible. Requests for Firm Point-To-Point Transmission Service for periods of less than one year shall be subject to expedited procedures that shall be negotiated between the Parties within the time constraints provided in Section 17.5 (Response to a Completed Application for Firm Service).

All Firm Point-To-Point Transmission Service requests should be submitted by entering the required information on TVA's OASIS. The OASIS will provide a record for establishing the reservation priority of the Application. A written Completed Application for Firm Point-To-Point Transmission Service requests will also be submitted to:

Transmission System Services
Tennessee Valley Authority
1101 Market Street, PCC 2A
Chattanooga, Tennessee 37402-2801
Telephone: (423) 697-4052

17.2 Completed Application for Firm Service

A Completed Application shall provide all of the information included in 18 CFR § 2.20 including but not limited to the following:

- (A) The identity, address, telephone number and facsimile number of the entity requesting service and the contact person or persons;
- (B) The entity's NERC acronym, Data Universal Numbering System (DUNS) number, and desk name identifier(s),
- (C) A statement that the entity requesting service is, or will be upon commencement of service, an Eligible Customer under the Guidelines;
- (D) A showing of creditworthiness in accordance with Section 10 (Creditworthiness);
- (E) The Point(s) of Receipt and Point(s) of Delivery and the identities of the Delivering Parties and the Receiving Parties;
- (F) The location of the generating facility(ies) supplying the capacity and energy and the location of the load ultimately served by the capacity and energy transmitted. TVA will treat this information as confidential except to the extent that disclosure of this information is required by these Guidelines, by regulatory or judicial order, for reliability purposes consistent with Good Utility Practice or is otherwise legally required;
- (G) A description of the supply characteristics of the capacity and energy to be delivered. To the extent it is known or can reasonably be estimated, a description will be included of the expected transaction profile including load factor describing the hourly quantities of capacity and energy to be delivered to the TVA Transmission System at relevant Point(s) of Receipt;
- (H) An estimate of the capacity and energy expected to be delivered to the Receiving Party. The profile of deliveries to each Receiving Party will be included to the extent required by TVA to evaluate the transaction;
- (I) The Service Commencement Date and the term of the requested Transmission Service;
- (J) The transmission capability requested for each Point of Receipt and each Point of Delivery on TVA's Transmission System; customers may combine their requests for service in order to satisfy the minimum transmission capacity requirement;
- (K) A statement indicating that, if the Eligible Customer submits a Pre-Confirmed Application, the Eligible Customer will execute a Service Agreement upon receipt of notification that TVA can provide the requested Transmission Service;
- (L) A statement indicating whether the Eligible Customer elects to have TVA study redispatch and/or conditional firm curtailment as part of the System Impact Study for Long-Term Firm Point-to-Point service requests;
- (M) Any additional information required by TVA; and

- (N) A statement as to whether the request is being made in response to a solicitation and a copy of the solicitation if publicly available.

If Transmission Service is provided under an umbrella Service Agreement for Short-Term Firm Point-To-Point Transmission Service, only the information listed in subsections (A) through (D) will be required in the Application. The remaining information listed in subsections (E) through (N) will be required when a capacity reservation is requested.

TVA shall have the right to require other information from the Eligible Customer for purposes of determining whether a request for Transmission Service is duplicative or mutually exclusive of other requests, whether there is Available Transfer Capability on the TVA Transmission System, whether there is a potential regional impact, or to remedy apparent deficiencies in the information initially received from the Eligible Customer.

If the Eligible Customer does not own, control or operate transmission facilities, it must include in its Application a sworn statement of one of its duly authorized officers or other representatives that the purpose of its Application is not to assist an Eligible Customer to avoid the reciprocity requirements of Section 5 (Reciprocity) of these Guidelines.

TVA shall treat this information consistent with its standards of conduct.

17.3 Deposit for Firm Service

A Completed Application for Firm Point-To-Point Transmission Service also shall include a deposit (in the form of cash or a letter of credit) of either one month's charge for Reserved Capacity or the full charge for Reserved Capacity for service requests of less than one month. If the Application is rejected by TVA because it does not meet the conditions for service as set forth herein, or in the case of requests for service arising in connection with losing bidders in a Request For Proposals (RFP), said deposit, if cash, shall be returned with interest less any reasonable costs incurred by TVA in connection with the review of the losing bidder's Application. The deposit, if cash, also will be returned with interest less any reasonable costs incurred by TVA if TVA is unable to complete new facilities needed to provide the service. If an Application is withdrawn or the Eligible Customer decides not to enter into a Service Agreement for Firm Point-To-Point Transmission Service, the deposit, if cash, shall be refunded in full, with interest, less reasonable costs incurred by TVA to the extent such costs have not already been recovered by TVA from the Eligible Customer. TVA will provide to the Eligible Customer a complete accounting of all costs deducted from the refunded deposit, which the Eligible Customer may contest if there is a dispute concerning the deducted costs. Deposits associated with construction of new facilities are subject to the provisions of Section 19 (Additional Study Procedures for Firm Point-To-Point Transmission Service Requests). If a Service Agreement for Firm Point-To-Point Transmission Service is executed, the deposit, if cash, will be returned with interest (less any unpaid obligations of the Transmission Customer), to the Transmission Customer upon expiration or termination of the Service Agreement for Firm Point-To-Point Transmission Service or sooner as TVA deems appropriate. Applicable interest shall be calculated in accordance with Section 10 (Creditworthiness).

17.4 Notice of Deficient Application for Firm Service

If an Application fails to meet the requirements of the Guidelines, TVA shall notify the entity requesting service within fifteen (15) days of receipt of the reasons for such failure. TVA will attempt to remedy minor deficiencies in the Application through informal communications with the Eligible Customer. If such efforts are unsuccessful, TVA shall return the Application, along with any cash deposit, with interest calculated in accordance with Section 10 (Creditworthiness). Upon receipt of a new or revised Application that fully complies with the requirements of Parts I and II of the Guidelines, the Eligible Customer shall be assigned a new reservation priority consistent with the date of the new or revised Application.

17.5 Response to a Completed Application for Firm Service

Following receipt of a Completed Application for Firm Point-To-Point Transmission Service, TVA shall make a determination of Available Transfer Capability as required in Section 15.2 (Determination of Available Transfer Capability). TVA shall notify the Eligible Customer as soon as practicable, but not later than thirty (30) days after the date of receipt of a Completed Application (or some other mutually agreed upon date) either (i) if it will be able to provide service without performing a System Impact Study or (ii) if such a study is needed to evaluate the impact of the Application pursuant to Section 19.1 (Notice of Need for System Impact Study). Responses by TVA will be made as soon as practicable to all Completed Applications (including applications by TVA for its own Third-Party Sales) and the timing of such responses must be made on a non-discriminatory basis.

17.6 Execution of Service Agreement for Firm Service

Whenever TVA determines that a System Impact Study is not required and that the service can be provided, it shall notify the Eligible Customer as soon as practicable but no later than thirty (30) days after receipt of the Completed Application. Where a System Impact Study is required, the provisions of Section 19 (Additional Study Procedures for Firm Point-To-Point Transmission Service Requests) will govern the execution of a Service Agreement. Failure of an Eligible Customer to execute and return the Service Agreement within fifteen (15) days after it is tendered by TVA will be deemed a withdrawal (unless a mutually agreed upon alternate schedule is established) and termination of the Application and any cash deposit submitted shall be refunded with interest calculated in accordance with Section 10 (Creditworthiness). Nothing herein limits the right of an Eligible Customer to file another Application after such withdrawal and termination.

17.7 Extensions for Commencement of Firm Service

The Transmission Customer can obtain, subject to availability, up to five (5) one-year extensions for the commencement of firm service. The Transmission Customer may postpone service by paying a non-refundable annual reservation fee equal to one month's charge for firm Transmission Service for each year of extension or fraction thereof within 15 days of notifying TVA it intends to extend the commencement of service. If the Eligible Customer does not pay this non-refundable reservation fee by the due date, then the Eligible Customer's request for extension shall be deemed withdrawn. If during any extension for the commencement of service another Eligible Customer submits a Completed Application for firm Transmission Service, and such request can be satisfied only by

releasing all or part of the Transmission Customer's Reserved Capacity for which an annual reservation fee was paid, the original Reserved Capacity will be released unless the following condition is satisfied. Within thirty (30) days of written notice from TVA, the original Transmission Customer agrees to pay the firm Point-To-Point transmission rate for its Reserved Capacity concurrent with the new Service Commencement Date requested by the other Eligible Customer. In the event the Transmission Customer elects to release the Reserved Capacity, the reservation fees or portions thereof previously paid will be forfeited.

18 Procedures for Arranging Non-Firm Point-To-Point Transmission Service

18.1 Application for Non-Firm Service

Eligible Customers seeking Non-Firm Point-To-Point Transmission Service must submit a written Completed Application to:

Transmission System Services
Tennessee Valley Authority
1101 Market Street, PCC 2A
Chattanooga, Tennessee 37402-2801
Telephone: (423) 697-4076

Applications for Non-Firm Point-To-Point Transmission Service should also be submitted by entering the required information on TVA's OASIS. The OASIS will provide a record for establishing the service priority of the Application.

18.2 Completed Application for Non-Firm Service

A Completed Application shall provide all of the information included in 18 CFR §2.20 including but not limited to the following:

- (A)** The identity, address, telephone number and facsimile number of the entity requesting service and the contact person or persons;
- (B)** The entity's NERC acronym, Data Universal Numbering System (DUNS) number, and desk name identifier(s),
- (C)** A statement that the entity requesting service is, or will be upon commencement of service, an Eligible Customer under the Guidelines;
- (D)** A showing of creditworthiness in accordance with Section 10 (Creditworthiness);
- (E)** The Point(s) of Receipt and the Point(s) of Delivery;
- (F)** The maximum amount of capacity requested at each Point of Receipt and Point of Delivery; and
- (G)** The proposed dates and hours for initiating and terminating Transmission Service hereunder.

In addition to the information specified above, when required to properly evaluate system conditions, TVA also may ask the Eligible Customer to provide the following:

- (H) The electrical location of the initial source of the power to be transmitted pursuant to the Eligible Customer's request for service and
- (I) The electrical location of the ultimate load.

TVA will treat the information in (H) and (I) as confidential at the request of the Eligible Customer except to the extent that disclosure of this information is required by these Guidelines, by regulatory or judicial order, for reliability purposes consistent with Good Utility Practice, or is otherwise legally required. TVA shall treat this information consistent with its standards of conduct.

- (J) A statement indicating that, if the Eligible Customer submits a Pre-Confirmed Application, the Eligible Customer will execute a Service Agreement upon receipt of notification that TVA can provide the requested Transmission Service.

If Transmission Service is provided under an umbrella Service Agreement for Non-Firm Point-To-Point Transmission Service (see Attachment B) only the information listed in subsections (A) through (D) will be required in the Application. The remaining information listed in subsections (E) through (J) will be required when a capacity reservation is requested.

If the Eligible Customer does not own, control or operate transmission facilities, it must include in its Application a sworn statement of one of its duly authorized officers or other representatives that the purpose of its Application is not to assist an Eligible Customer to avoid the reciprocity requirements of Section 5 (Reciprocity) of these Guidelines.

18.3 Reservation of Non-Firm Point-To-Point Transmission Service

Requests for Monthly Service shall be submitted no earlier than sixty (60) days before service is to commence; requests for Weekly Service shall be submitted no earlier than fourteen (14) days before service is to commence, requests for Daily Service shall be submitted no earlier than two (2) days before service is to commence, and requests for Hourly Service shall be submitted no earlier than 8:00 a.m. Central Prevailing Time the day before service is to commence. For Monthly Service, requests for service received later than a deadline of 12:00 noon Central Prevailing Time two days prior to the day service is to commence will be accommodated if practicable. For Weekly Service, Daily Service and Hourly Service, requests for service received later than a deadline of 2:00 p.m. Central Prevailing Time the day prior to the day service is to commence will be accommodated if practicable.

18.4 Determination of Available Transfer Capability for Non-Firm Service

Following receipt of a request for reservation of Non-Firm Point-To-Point Transmission Service, TVA will make a determination on a non-discriminatory basis of Available Transfer Capability pursuant to Section 15.2 (Determination of

Available Transfer Capability). Such determination shall be made as soon as reasonably practicable after receipt, but not later than the following time periods for the following terms of service (i) thirty (30) minutes for Hourly Service, (ii) thirty (30) minutes for Daily Service, (iii) four (4) hours for Weekly Service, and (iv) two (2) days for Monthly Service. During periods of heavy demand for next day Hourly Service or Daily Service, the response period for requests for such service may be extended beyond 30 minutes when necessary.

19 Additional Study Procedures for Firm Point-To-Point Transmission Service Requests

19.1 Notice of Need for System Impact Study

After receiving a request for firm service, TVA shall determine on a non-discriminatory basis whether a System Impact Study is needed. A description of TVA's methodology for completing a System Impact Study is provided in Attachment D. If TVA determines that a System Impact Study is necessary to accommodate the requested service, it shall so inform the Eligible Customer, as soon as practicable. Once informed, the Eligible Customer shall timely notify TVA if it elects to have TVA study redispach or conditional curtailment as part of the System Impact Study. TVA shall within thirty (30) days of receipt of a Completed Application, tender a System Impact Study Agreement pursuant to which the Eligible Customer shall agree to reimburse TVA for performing the required System Impact Study. For a service request to remain a Completed Application, the Eligible Customer shall execute the System Impact Study Agreement and return it to TVA within fifteen (15) days (unless a mutually agreed upon alternate schedule is established). If the Eligible Customer elects not to execute the System Impact Study Agreement, its Application shall be deemed withdrawn and its deposit, if cash, pursuant to Section 17.3 (Deposit for Firm Service), shall be returned with interest calculated in accordance with Section 10 (Creditworthiness).

19.2 System Impact Study Agreement and Cost Reimbursement

- (A)** The System Impact Study Agreement will clearly specify TVA's estimate of the actual cost, and time for completion of the System Impact Study. The charge shall not exceed the actual cost of the study. In performing the System Impact Study, TVA shall rely, to the extent reasonably practicable, on existing transmission planning studies. The Eligible Customer will not be assessed a charge for such existing studies; however, the Eligible Customer will be responsible for charges associated with any modifications to existing planning studies that are reasonably necessary to evaluate the impact of the Eligible Customer's request for service on the Transmission System.
- (B)** If in response to multiple Eligible Customers requesting service in relation to the same competitive solicitation, a single System Impact Study is sufficient for TVA to accommodate the requests for service, the costs of that study shall be pro-rated among the Eligible Customers.
- (C)** For System Impact Studies that TVA conducts on its own behalf, TVA shall record the cost of the System Impact Studies pursuant to Section 7 (Accounting for TVA's Use of the Guidelines).

19.3 System Impact Study Procedures

Upon receipt of an executed System Impact Study Agreement, TVA will use due diligence to complete the required System Impact Study within a sixty (60) day period. The System Impact Study shall identify (1) any system constraints, identified with specificity by transmission element or flowgate, (2) redispatch options, if any, (when requested by an Eligible Customer) including an estimate of the cost of redispatch, (3) conditional curtailment options, if any, (when requested by an Eligible Customer) including the number of hours per year or the System Conditions during which conditional curtailment may occur, and (4) the need for any modifications to TVA's Transmission System (including Direct Assignment Facilities and Network Upgrades) that are required to provide the requested service. For customers requesting the study of redispatch options, the System Impact Study shall (1) identify all resources located within TVA's Control Area that can significantly contribute toward relieving the system constraint and (2) provide a measurement of each resource's impact on the system constraint. If TVA possesses information indicating that any resource outside its Control Area could relieve the constraint, it shall identify each such resource in its System Impact Study. In the event that TVA is unable to complete the required System Impact Study within such time period, it shall so notify the Eligible Customer and provide an estimated completion date along with an explanation of the reasons why additional time is required to complete the required studies. A copy of the completed System Impact Study and related work papers shall be made available to the Eligible Customer as soon as the System Impact Study is complete. TVA will use the same due diligence in completing the System Impact Study for an Eligible Customer as it uses when completing studies for itself. TVA shall notify the Eligible Customer immediately upon completion of the System Impact Study if the Transmission System will be adequate to accommodate all or part of a request for service or that no costs are likely to be incurred for new transmission facilities or upgrades. Unless a Facilities Study needs to be performed in accordance with Section 19.4 (Facilities Study Procedures), in order for a request to remain a Completed Application, within fifteen (15) days of completion of the System Impact Study and TVA's tender to the Eligible Customer of a Service Agreement, the Eligible Customer must execute such Service Agreement (unless a mutually agreed upon alternate schedule is established), or the Application shall be deemed terminated and withdrawn.

19.4 Facilities Study Procedures

If a System Impact Study indicates that additions or upgrades to the Transmission System are needed to supply the Eligible Customer's service request, where a Facilities Study is needed, TVA, within thirty (30) days of the completion of the System Impact Study, shall tender to the Eligible Customer a Facilities Study Agreement pursuant to which the Eligible Customer shall agree to reimburse TVA for performing the required Facilities Study. For a service request to remain a Completed Application, the Eligible Customer shall execute the Facilities Study Agreement and return it to TVA within fifteen (15) days of the date of the transmittal letter (or otherwise agreed upon date). If the Eligible Customer elects not to execute the Facilities Study Agreement, its Application shall be deemed withdrawn and its deposit, if cash, pursuant to Section 17.3 (Deposit for Firm Service), shall be returned with interest calculated in accordance with Section 10 (Creditworthiness). Upon receipt of an executed Facilities Study Agreement, TVA will use due diligence

to complete the required Facilities Study within a sixty (60) day period. If TVA is unable to complete the Facilities Study in the allotted time period, TVA shall notify the Eligible Customer and provide an estimate of the time needed to reach a final determination along with an explanation of the reasons that additional time is required to complete the study. When completed, the Facilities Study will include a good faith estimate of (i) the cost of Direct Assignment Facilities to be charged to the Eligible Customer, (ii) the Eligible Customer's appropriate share of the cost of any required Network Upgrades as determined pursuant to the provisions of Parts I and II of the Guidelines, and (iii) the time required to complete such construction and initiate the requested service.

TVA will present the results of the study to the Eligible Customer, provide an invoice for the actual cost of the Facilities Study (adjusted to credit the amount of any initial payment and refund any overpayment if applicable), and tender a Service Agreement under which the Eligible Customer would agree to receive Transmission Service upon completion of the modifications and agree to compensate TVA for all costs of Direct Assignment Facilities and other modifications that are necessary to satisfy the Eligible Customer's request for Transmission Service pursuant to these Guidelines. (Due to limitations on its borrowing authority under the TVA Act, TVA reserves the right to require payment in advance sufficient to cover the costs of modifications.)

The Eligible Customer shall provide TVA with a letter of credit or other reasonable form of security acceptable to TVA equivalent to the costs of new facilities or upgrades consistent with commercial practices as established by the Uniform Commercial Code consistent with Section 10 (Creditworthiness). The Eligible Customer shall have thirty (30) days to execute a Service Agreement and provide the required letter of credit or other form of security or the request will no longer be a Completed Application and shall be deemed terminated and withdrawn.

19.5 Facilities Study Modifications

Any change in design arising from the inability to site or construct facilities as proposed will require development of a revised good faith estimate. New good faith estimates also will be required in the event of new statutory or regulatory requirements that are effective before the completion of construction or other circumstances beyond the control of TVA that significantly affect the final cost of new facilities or upgrades to be charged to the Transmission Customer pursuant to the provisions of Parts I and II of the Guidelines.

19.6 Due Diligence in Completing New Facilities

TVA shall use due diligence to add necessary facilities or upgrade its Transmission System within a reasonable time. TVA will not upgrade its existing or planned Transmission System in order to provide the requested Firm Point-To-Point Transmission Service if doing so would impair system reliability or otherwise impair or degrade existing firm service.

19.7 Partial Interim Service

If TVA determines that it will not have adequate transfer capability to satisfy the full amount of a Completed Application for Firm Point-To-Point Transmission Service,

TVA nonetheless shall be obligated to offer and provide the portion of the requested Firm Point-To-Point Transmission Service that can be accommodated without addition of any facilities or upgrades and through redispatch. However, unless Transmission Service is provided in accordance with Section 15.3(B) or 15.3(C), TVA shall not be obligated to provide the incremental amount of requested Firm Point-To-Point Transmission Service that requires the addition of facilities or upgrades to the Transmission System until such facilities or upgrades have been placed in service.

19.8 Expedited Procedures for New Facilities

In lieu of the procedures set forth above, the Eligible Customer shall have the option to expedite the process by requesting TVA to tender at one time, together with the results of required studies, an "Expedited Service Agreement" pursuant to which the Eligible Customer would agree to compensate TVA for all costs incurred pursuant to the terms of the Guidelines. In order to exercise this option, the Eligible Customer shall request in writing an Expedited Service Agreement covering all of the above-specified items within thirty (30) days of receiving the results of the System Impact Study identifying needed facility additions or upgrades or costs incurred in providing the requested service. While TVA agrees to provide the Eligible Customer with its best estimate of the new facility costs and other charges that may be incurred, such estimate shall not be binding and the Eligible Customer must agree in writing to compensate TVA for all costs incurred pursuant to the provisions of the Guidelines. The Eligible Customer shall execute and return such an Expedited Service Agreement within fifteen (15) days of its receipt or the Eligible Customer's request for service will cease to be a Completed Application and will be deemed terminated and withdrawn.

20 Procedures if TVA is Unable to Complete New Transmission Facilities for Firm Point-To-Point Transmission Service

20.1 Delays in Construction of New Facilities

If any event occurs that will materially affect the time for completion of new facilities, or the ability to complete them, TVA shall promptly notify the Transmission Customer. In such circumstances, TVA shall within thirty (30) days of notifying the Transmission Customer of such delays, convene a technical meeting with the Transmission Customer to evaluate the alternatives available to the Transmission Customer. TVA also shall make available to the Transmission Customer studies and work papers related to the delay, including all information that is in the possession of TVA that is reasonably needed by the Transmission Customer to evaluate any alternatives.

20.2 Alternatives to the Original Facility Additions

When TVA determines after the review process of Section 20.1 (Delays in Construction of New Facilities) that one or more alternatives exist to the originally planned construction project, TVA shall present such alternatives for consideration by the Transmission Customer. If, upon review of any alternatives, the Transmission Customer desires to maintain its Completed Application subject to construction of the alternative facilities, it may request TVA to submit a revised Service Agreement for Firm Point-To-Point Transmission Service. If the alternative approach solely involves Non-Firm Point-To-Point Transmission Service, TVA shall

promptly tender a Service Agreement for Non-Firm Point-To-Point Transmission Service providing for the service. In the event TVA concludes that no reasonable alternative exists and the Transmission Customer disagrees, the Transmission Customer may seek relief under the dispute resolution procedures pursuant to Section 11 (Dispute Resolution Procedures).

20.3 Refund Obligation for Unfinished Facility Additions

If TVA and the Transmission Customer mutually agree that no other reasonable alternatives exist and the requested service cannot be provided out of existing capability under the conditions of Parts I and II of the Guidelines, the obligation to provide the requested Firm Point-To-Point Transmission Service shall terminate and any cash deposit made by the Transmission Customer shall be returned with interest calculated in accordance with Section 10 (Creditworthiness). However, the Transmission Customer shall be responsible for all prudently incurred costs by TVA through the time construction was suspended.

21 Provisions Relating to Transmission Construction and Services on the Systems of Other Utilities

21.1 Responsibility for Third-Party System Additions

TVA shall not be responsible for making arrangements for any necessary engineering, permitting, and construction of transmission or distribution facilities on the system(s) of any other entity or for obtaining any regulatory approval for such facilities. TVA will undertake reasonable efforts to assist the Transmission Customer in obtaining such arrangements, including without limitation, providing any information or data required by such other electric system consistent with Good Utility Practice.

21.2 Coordination of Third-Party System Additions

In circumstances where the need for transmission facilities or upgrades is identified pursuant to the provisions of Parts I and II of the Guidelines, and if such upgrades further require the addition of transmission facilities on other systems, TVA shall have the right to coordinate construction on its own system with the construction required by others. TVA, after consultation with the Transmission Customer and representatives of such other systems, may defer construction of its new transmission facilities, if the new transmission facilities on another system cannot be completed in a timely manner. TVA shall notify the Transmission Customer in writing of the basis for any decision to defer construction and the specific problems which must be resolved before it will initiate or resume construction of new facilities. Within sixty (60) days of receiving written notification by TVA of its intent to defer construction pursuant to this section, the Transmission Customer may challenge the decision in accordance with the dispute resolution procedures pursuant to Section 11 (Dispute Resolution Procedures).

22 Changes in Service Specifications

22.1 Modifications on a Non-Firm Basis

The Transmission Customer taking Firm Point-To-Point Transmission Service may request TVA to provide Transmission Service on a non-firm basis over Points of

Receipt and Points of Delivery other than those specified in the Service Agreement or in the Transmission Service reservation for a Short-Term Firm customer operating under an umbrella agreement ("Secondary Receipt and Delivery Points"), in amounts not to exceed its firm Reserved Capacity, without incurring an additional Non-Firm Point-To-Point Transmission Service charge or executing a new Service Agreement, subject to the following conditions.

- (A) Service provided over Secondary Receipt and Delivery Points will be non-firm only, on an as-available basis and will not displace any firm or non-firm service reserved or scheduled by third-parties under the Guidelines, any Network Integration Transmission Service, or any use of the Transmission System by TVA on behalf of its Native Load Customers or for Third-Party Sales.
- (B) The sum of all Firm and Non-Firm Point-To-Point Transmission Service provided to the Transmission Customer at any time pursuant to this section shall not exceed the Reserved Capacity in the relevant Service Agreement or Transmission Service reservation under which such services are provided.
- (C) The Transmission Customer shall retain its right to schedule Firm Point-To-Point Transmission Service at the Points of Receipt and Points of Delivery specified in the relevant Service Agreement or Transmission Service reservation in the amount of its original Reserved Capacity.
- (D) Service over Secondary Receipt and Delivery Points on a non-firm basis shall require the filing of an Application for Non-Firm Point-To-Point Transmission Service under the Guidelines. All other requirements of Parts I and II of the Guidelines (except as to transmission rates) shall apply to Transmission Service on a non-firm basis over Secondary Receipt and Delivery Points.

22.2 Modifications on a Firm Basis

Any request by a Transmission Customer to modify Points of Receipt and Points of Delivery on a firm basis shall be treated as a new request for service in accordance with Section 17 (Procedures for Arranging Firm Point-To-Point Transmission Service) hereof, except that such Transmission Customer shall not be obligated to pay any additional deposit if the Reserved Capacity, including the proposed change, does not exceed the amount reserved in the existing Service Agreement or in the Transmission Service reservation for a Short-Term Firm customer operating under an umbrella agreement. While such new request is pending, the Transmission Customer shall retain its priority for service at the existing firm Points of Receipt and Points of Delivery specified in its Service Agreement or Transmission Service reservation.

23 Sale or Assignment of Transmission Service

23.1 Procedures for Assignment or Transfer of Service

Subject to TVA approval, which shall not be unreasonably withheld, a Transmission Customer may sell, assign, or transfer all or a portion of its rights under its Service

Agreement or in the Transmission Service reservation for a customer operating under an umbrella agreement, but only to another Eligible Customer (the Assignee). The Transmission Customer that sells, assigns or transfers its rights under its Service Agreement is hereafter referred to as the Reseller. TVA's approval of the assignment shall be reflected in a Consent to Assignment executed by TVA, the Reseller, and the Assignee (the form of which is included in the Guidelines as Attachment A-1). Compensation to Resellers shall not exceed the higher of (i) the original rate paid by the Reseller, (ii) TVA's maximum rate at the time of the assignment, or (iii) the Reseller's opportunity cost capped at TVA's cost of expansion; provided that, for service prior to October 1, 2010, compensation to Resellers shall be at rates established by agreement between the Reseller and the Assignee.

The Assignee must execute a Service Agreement with TVA governing the assignment of Transmission Service prior to the date on which the assigned Transmission Service commences. TVA shall charge the Reseller, as appropriate, at the rate stated in the Reseller's Service Agreement with TVA or the applicable rate posted on OASIS and the Reseller shall be responsible under its separate agreement with the Assignee to collect its compensation for the assignment of Transmission Service. Notwithstanding any dispute Reseller and Assignee may have under such assignment, the Reseller will pay TVA for the assigned Transmission Service as such amounts are due under the Reseller's original Service Agreement with TVA. Failure to pay TVA such amounts when due shall result in suspension and thereafter possible termination of Transmission Service in accordance with the Guidelines. If the Assignee does not request any change in the Point(s) of Receipt or the Point(s) of Delivery, or a change in any other term or condition set forth in the original Service Agreement, the Assignee will receive the same services as did the Reseller and the priority of service for the Assignee will be the same as that of the Reseller. The Assignee will be subject to all terms and conditions of these Guidelines. If the Assignee requests a change in service, the reservation priority of service will be determined by TVA pursuant to Sections 13.2 (Reservation Priority) and 14.2 (Reservation Priority).

23.2 Limitations on Assignment or Transfer of Service

If the Assignee requests a change in the Point(s) of Receipt or Point(s) of Delivery, or a change in any other specifications set forth in the original Service Agreement or in the Transmission Service reservation for a customer operating under an umbrella agreement, TVA will consent to such change subject to the provisions of the Guidelines, provided that the change will not impair the operation and reliability of TVA's generation, transmission, or distribution systems. The Assignee shall compensate TVA for performing any System Impact Study needed to evaluate the capability of the Transmission System to accommodate the proposed change and any additional costs resulting from such change. The Reseller shall remain liable for the performance of all obligations under the Service Agreement, except as specifically agreed to by TVA and the Reseller through an amendment to the Service Agreement.

23.3 Information on Assignment or Transfer of Service

In accordance with Section 4 (Open Access Same-Time Information System (OASIS) and Standards of Conduct), all sales or assignments of capacity must be

conducted through or otherwise posted on TVA's OASIS on or before the date the reassigned service commences and are subject to Section 23.1 (Procedures for Assignment or Transfer of Service). Resellers may also use TVA's OASIS to post transmission capacity available for resale.

24 Metering and Power Factor Correction at Point(s) of Receipt and Point(s) of Delivery

24.1 Transmission Customer Obligations

Unless otherwise agreed, the Transmission Customer shall be responsible for installing and maintaining compatible metering and communications equipment to accurately account for the capacity and energy being transmitted under Parts I and II of the Guidelines and to communicate the information to TVA. Such equipment shall remain the property of the Transmission Customer.

24.2 TVA Access to Metering Data

TVA shall have access to metering data, which may reasonably be required to facilitate measurements and billing under the Service Agreement.

24.3 Power Factor

Unless otherwise agreed, the Transmission Customer is required to maintain a power factor within the same range as TVA consistent with Good Utility Practices. The power factor requirements are specified in the Service Agreement where applicable.

25 Compensation for Transmission Service

The Transmission Customer shall pay TVA the rates for Firm and Non-Firm Point-To-Point Transmission Service provided in the Schedules appended to the Guidelines: Firm Point-To-Point Transmission Service (Schedule 7); Non-Firm Point-To-Point Transmission Service (Schedule 8); and the rates for Ancillary Services provided in Schedule 1 through Schedule 6. The Transmission Customer also shall pay TVA for any applicable study costs, or other costs incurred by TVA pursuant to these Guidelines. TVA shall use Parts I and II of the Guidelines to make its Third-Party Sales. TVA shall account for such use at the applicable Guidelines rates, pursuant to Section 7 (Accounting for TVA's Use of the Guidelines).

26 Stranded Cost Recovery

TVA may recover stranded costs from the Transmission Customer pursuant to these Guidelines consistent with the terms and conditions set forth in FERC Order No. 888 and other applicable law.

27 Compensation for Modifications and Redispatch Costs

Whenever a System Impact Study performed by TVA in connection with the provision of Firm Point-To-Point Transmission Service identifies the need for modifications to TVA's system (including Direct Assignment Facilities and Network Upgrades), and the executed Service Agreement provides for such modifications, the Transmission Customer shall be responsible for such costs to the extent consistent with applicable law and Commission policy compatible therewith. Whenever a System Impact Study performed by TVA, in

response to a request for firm service, identifies capacity constraints that may be relieved by redispatching TVA's resources to eliminate such constraints, and the executed Service Agreement provides for such redispatch, the Transmission Customer shall be responsible for the Redispatch Costs to the extent consistent with applicable law and Commission policy compatible therewith.

III. NETWORK INTEGRATION TRANSMISSION SERVICE

Preamble

TVA will provide Network Integration Transmission Service pursuant to the applicable terms and conditions contained in the Guidelines and Service Agreement. Network Integration Transmission Service allows the Network Customer to integrate, economically dispatch and regulate its current and planned Network Resources to serve its Network Load in a manner comparable to that in which TVA utilizes its Transmission System to serve its Native Load Customers. Network Integration Transmission Service also may be used by the Network Customer to deliver economy energy purchases to its Network Load from non-designated resources on an as-available basis without incurring an additional charge. Transmission Service for sales to non-designated loads will be provided pursuant to the applicable terms and conditions of Parts I and II of the Guidelines.

28 Nature of Network Integration Transmission Service

28.1 Scope of Service

Network Integration Transmission Service is a transmission service that allows Network Customers to efficiently and economically utilize their Network Resources (as well as other non-designated generation resources) to serve their Network Load located in TVA's Control Area and any additional load that may be designated pursuant to Section 31.3 (Network Load Not Physically Interconnected with TVA) of the Guidelines. The Network Customer taking Network Integration Transmission Service must obtain or provide Ancillary Services pursuant to Section 3 (Ancillary Services).

28.2 TVA Responsibilities

TVA will plan, construct, operate and maintain its Transmission System in accordance with Good Utility Practice in order to provide the Network Customer with Network Integration Transmission Service over TVA's Transmission System. TVA, on behalf of its Native Load Customers, shall be required to designate resources and loads in the same manner as any Network Customer under Parts I and III of these Guidelines. This information must be consistent with the information used by TVA to calculate Available Transfer Capability. TVA shall include the Network Customer's Network Load in its Transmission System planning and shall, consistent with Good Utility Practice, endeavor to construct and place into service sufficient transfer capability to deliver the Network Customer's Network Resources to serve its Network Load on a basis comparable to TVA's delivery of its own generating and purchased resources to its Native Load Customers.

28.3 Network Integration Transmission Service

TVA will provide firm Transmission Service over its Transmission System to the Network Customer for the delivery of capacity and energy from its designated

Network Resources to service its Network Loads on a basis that is comparable to TVA's use of the Transmission System to reliably serve its Native Load Customers.

28.4 Secondary Service

The Network Customer may use TVA's Transmission System to deliver energy to its Network Loads from resources that have not been designated as Network Resources. Such energy shall be transmitted, on an as-available basis, at no additional charge. Secondary service shall require the filing of an Application for Network Integration Transmission Service under the Guidelines. All other requirements of Parts I and III of the Guidelines (except for transmission rates) shall apply to secondary service. Deliveries from resources other than Network Resources will have a higher priority than any Non-Firm Point-To-Point Transmission Service under Parts I and II of the Guidelines.

28.5 Real Power Losses

Real Power Losses are associated with all Network Integration Transmission Service. TVA is not obligated to provide Real Power Losses. The Network Customer is responsible for replacing losses associated with all Network Integration Transmission Service as calculated by TVA. TVA may agree to supply the amount of losses to be absorbed on the TVA Transmission System, provided the Network Customer compensates TVA for such provision of losses at TVA's indicated charges. If the Network Customer desires to provide the losses or have a third party provide them, the Network Customer shall notify TVA of the sources and Point(s) of Receipt. Otherwise, the amount of power and energy actually transmitted from the Point(s) of Receipt to the Point(s) of Delivery shall be the amount received by TVA for delivery less transmission losses on the TVA Transmission System. The percentage value of capacity and energy losses shall be three (3) percent based on average losses on the TVA Transmission System.

28.6 Restrictions on Use of Network Integration Transmission Service

The Network Customer shall not use Network Integration Transmission Service for (i) sales of capacity and energy to non-designated loads, or (ii) direct or indirect provision of transmission service by the Network Customer to third parties. All Network Customers taking Network Integration Transmission Service shall use Point-To-Point Transmission Service under Parts I and II of the Guidelines for any Third-Party Sale which requires use of TVA's Transmission System. TVA shall specify any appropriate charges and penalties and all related terms and conditions applicable in the event that a Network Customer uses Network Integration Transmission Service or secondary service pursuant to Section 28.4 (Secondary Service) to facilitate a wholesale sale that does not serve a Network Load.

28.7 Scheduling of Network Integration Transmission Service

Scheduling for Network Integration Transmission Service will be addressed in the Service Agreement.

29 Initiating Network Integration Transmission Service**29.1 Condition Precedent for Receiving Service**

Subject to the terms and conditions of Parts I and III of the Guidelines, TVA will provide Network Integration Transmission Service to any Eligible Customer, provided that (i) the Eligible Customer completes an Application for service as provided under Parts I and III of the Guidelines, (ii) the Eligible Customer and TVA complete the technical arrangements set forth in Sections 29.3 (Technical Arrangements to be Completed Prior to Commencement of Network Integration Transmission Service) and 29.4 (Network Customer Facilities), (iii) the Eligible Customer executes a Service Agreement pursuant to Attachment F for service under Parts I and III of the Guidelines, and (iv) the Eligible Customer executes a Network Operating Agreement with TVA pursuant to Attachment G. A condition of Network Customer's acceptance of the Service Agreement is that the customer will submit Transmission Service reservations and will provide tagging information that meets the specifications of the applicable NERC Standards.

29.2 Application Procedures for Network Integration Transmission Service

An Eligible Customer requesting service under Parts I and III of the Guidelines must enter the required information on TVA's OASIS. The Eligible Customer must also submit a written Application, with a deposit approximating the charge for one month of service, to TVA as far as possible in advance of the month in which service is to commence. Requests for reservations of Available Transfer Capability for Network Integration Transmission Service will be submitted to:

Transmission System Services
Tennessee Valley Authority
1101 Market Street, PCC 2A
Chattanooga, Tennessee 37402-2801
Telephone: (423) 697-4052

Unless subject to the procedures in Section 2 (Initial Allocation and Renewal Procedures for Firm Service), Completed Applications for Network Integration Transmission Service will be assigned a priority according to the date and time the Application is received on the OASIS, with the earliest Application receiving the highest reservation priority. Applications should be submitted by entering the information listed below on TVA's OASIS. Information that cannot readily be entered on the OASIS will be submitted to TVA by mail at the address indicated above. The OASIS will provide a record for establishing the reservation priority of the Application.

A Completed Application shall provide all of the information included in 18 CFR §2.20 including but not limited to the following:

- (A)** The identity, address, telephone number and facsimile number of the Party requesting service;
- (B)** A statement that the Party requesting service is, or will be upon commencement of service, an Eligible Customer under the Guidelines;

- (C) A description of the Network Load at each Point of Delivery. This description should separately identify and provide the Eligible Customer's best estimate of the total loads to be served at each transmission voltage level, and the loads to be served from each TVA substation at the same transmission voltage level. The description should include a ten (10) year forecast of summer and winter load and resource requirements beginning with the first year after the service is scheduled to commence;
- (D) The amount and location of any interruptible loads included in the Network Load. This shall include the summer and winter capacity requirements for each interruptible load (had such load not been interruptible), that portion of the load subject to interruption, the conditions under which an interruption can be implemented and any limitations on the amount and frequency of interruptions. An Eligible Customer should identify the amount of interruptible customer load (if any) included in the 10 year load forecast provided in response to (C) above;
- (E) A description of Network Resources (current and 10-year projection). For each on-system Network Resource, such description shall include:
- (I) Unit size and amount of capacity from that unit to be designated as Network Resource
 - (II) VAR capability (both leading and lagging) of all generators
 - (III) Operating restrictions
 - Any periods of restricted operations throughout the year
 - Maintenance schedules
 - Minimum loading level of unit
 - Normal operating level of unit
 - Any must-run unit designations required for system reliability or contract reasons
 - (IV) Approximate variable generating cost (\$/MWh) for redispatch computations
 - (V) Arrangements governing sale and delivery of power to third parties from generating facilities located in TVA's Control Area, where only a portion of unit output is designated as a Network Resource

For each off-system Network Resource, such description shall include:

- (I) Identification of the Network Resource as an off-system resource
 - (II) Amount of power to which the customer has rights
 - (III) Identification of the Control Area from which the power will originate
 - (IV) Delivery point(s) to TVA's Transmission System
 - (V) Transmission arrangements on the external transmission system(s)
 - (VI) Operating restrictions, if any
 - Any periods of restricted operations throughout the year
 - Maintenance schedules
 - Minimum loading level of unit
 - Normal operating level of unit
 - Any must-run unit designations required for system reliability or contract reasons
 - (VII) Approximate variable generating cost (\$/MWh) for redispatch computations
- (F) Description of Eligible Customer's transmission system:

- (I) Load flow and stability data, such as real and reactive parts of the load, lines, transformers, reactive devices and load type, including normal and emergency ratings of all transmission equipment in a load flow format compatible with that used by TVA
 - (II) Operating restrictions needed for reliability
 - (III) Operating guides employed by system operators
 - (IV) Contractual restrictions or committed uses of the Eligible Customer's transmission system, other than the Eligible Customer's Network Loads and Resources
 - (V) Location of Network Resources described in subsection (E) above
 - (VI) 10 year projection of system expansions or upgrades
 - (VII) Transmission system maps that include any proposed expansions or upgrades
 - (VIII) Thermal ratings of Eligible Customer's Control Area ties with other Control Areas;
- (G) Service Commencement Date and the term of the requested Network Integration Transmission Service. The minimum term for Network Integration Transmission Service is one year;
- (H) A statement signed by an authorized officer from or agent of the Network Customer attesting that all of the Network Resources listed pursuant to Section 29.2(E) satisfy the following conditions: (1) the Network Customer owns the resource, has committed to purchase generation pursuant to an executed contract, or has committed to purchase generation where execution of a contract is contingent upon the availability of transmission service under Parts I and III of the Guidelines; and (2) the Network Resources do not include any resources, or any portion thereof, that are committed for sale to non-designated third party load or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis;
- (I) Any additional information required by TVA for planning purposes;
- (J) A showing of creditworthiness in accordance with Section 10 (Creditworthiness); and
- (K) Any other reasonable information determined by TVA to be necessary to facilitate the expeditious processing of the Application.

Unless the Parties agree to a different time frame, TVA must acknowledge the request within ten (10) days of receipt. The acknowledgment must include a date by which a response, including a Service Agreement, will be sent to the Eligible Customer. If an Application fails to meet the requirements of this section, TVA shall notify the Eligible Customer requesting service within fifteen (15) days of receipt and specify the reasons for such failure. Wherever possible, TVA will attempt to remedy deficiencies in the Application through informal communications with the Eligible Customer. If such efforts are unsuccessful, TVA shall return the Application without prejudice to the Eligible Customer filing a new or revised Application that fully complies with the requirements of this section. The Eligible Customer will be assigned a new reservation priority consistent with the date of the new or revised Application. TVA shall treat this information consistent with the standards of

conduct contained in Part 37 of the Commission's regulations as implemented by TVA.

29.3 Technical Arrangements to be Completed Prior to Commencement of Network Integration Transmission Service

Network Integration Transmission Service shall not commence until TVA and the Network Customer, or a third party, have completed installation of all equipment specified under the Network Operating Agreement consistent with Good Utility Practice and any additional requirements reasonably and consistently imposed to ensure the reliable operation of the Transmission System. TVA shall exercise reasonable efforts, in coordination with the Network Customer, to complete such arrangements as soon as practicable taking into consideration the Service Commencement Date.

29.4 Network Customer Facilities

The provision of Network Integration Transmission Service shall be conditioned upon the Network Customer's constructing, maintaining and operating the facilities on its side of each Point of Delivery or interconnection necessary to reliably deliver capacity and energy from TVA's Transmission System to the Network Customer. The Network Customer shall be solely responsible for constructing or installing all facilities on the Network Customer's side of each such Point of Delivery or interconnection.

30 Network Resources

30.1 Designation of Network Resources

Network Resources shall include all generation owned, purchased or leased by the Network Customer designated to serve Network Load under the Guidelines. Network Resources may not include resources, or any portion thereof, that are committed for sale to non-designated third party load or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis. Any owned, purchased or leased resources that were serving the Network Customer's loads under firm agreements entered into on or before the Service Commencement Date shall initially be designated as Network Resources until the Network Customer terminates the designation of such resources. The location of all Network Resources will be specified sufficiently to allow for required System Impact Studies, Facilities Studies and network planning.

The designated Network Resources to serve TVA's Network Load for native load customers include: 1)TVA's system generation, 2) an allocation of power from the Southeastern Power Administration hydroelectric projects located within TVA's Control Area, and 3) firm power purchased from others, including cogeneration and power purchased under option purchase agreements for which TVA has paid a capacity charge regardless of whether TVA exercises the option for the energy.

30.2 Designation of New Network Resources

The Network Customer may designate a new Network Resource by providing TVA with as much advance notice as reasonably practicable. A designation of a new Network Resource must be made through TVA's OASIS and, as applicable, by a

request for modification of service pursuant to an Application under Section 29 (Initiating Network Integration Transmission Service). This request must include a statement that the new Network Resource satisfies the following conditions: (1) the Network Customer owns the resource, has committed to purchase generation pursuant to an executed contract, or has committed to purchase generation where execution of a contract is contingent upon the availability of transmission service under Parts I and III of the Guidelines; and (2) the Network Resources do not include any resources, or any portion thereof, that are committed for sale to non-designated third party load or otherwise cannot be called upon to meet the Network Customer's Network Load on a non-interruptible basis. The Network Customer's request will be deemed deficient if it does not include this statement and TVA will follow the procedures for a deficient application as described in Section 29.2 of the Guidelines (Application Procedures for Network Integration Transmission Service). TVA will use due diligence to install any transmission facilities required to interconnect a new Network Resource designated by the Network Customer. The costs of new facilities required to interconnect a new Network Resource shall be determined in accordance with the procedures provided in Section 32.4 (Facilities Study Procedures) and will be charged to the Network Customer consistent with applicable law and Commission policy compatible therewith.

30.3 Termination of Network Resources

The Network Customer may terminate the designation of all or part of a generating resource as a Network Resource by providing notification to TVA through OASIS as soon as reasonably practicable. Any request for termination of Network Resource status must be submitted on OASIS, and should indicate whether the request is for indefinite or temporary termination. A request for indefinite termination of Network Resource status must indicate the date and time that the termination is to be effective, and the identification and capacity of the resource(s) or portions thereof to be indefinitely terminated. A request for temporary termination of Network Resource status must include the following:

- (I) Effective date and time of temporary termination;
- (II) Effective date and time of redesignation, following period of temporary termination;
- (III) Identification and capacity of resource(s) or portions thereof to be temporarily terminated;
- (IV) Resource description and attestation for redesignating the Network Resource following the temporary termination, in accordance with Section 30.2 (Designation of New Network Resources); and
- (V) Identification of any related transmission service requests to be evaluated concomitantly with the request for temporary termination, such that the requests for undesignation and the request for these related transmission service requests must be approved or denied as a single request. The evaluation of these related transmission service requests must take into account the termination of the Network Resources identified in (III) above, as well as all competing transmission service requests of higher priority.

As part of a temporary termination, a Network Customer may only redesignate the same resource that was originally designated, or a portion thereof. Requests to redesignate a different resource and/or a resource with increased capacity will be

deemed deficient and TVA will follow the procedures for a deficient application as described in Section 29.2 of the Guidelines (Application Procedures for Network Integration Transmission Service).

30.4 Operation of Network Resources

The Network Customer shall not operate its designated Network Resources located in the Network Customer's or TVA's Control Area such that the output of those facilities exceeds its designated Network Load, plus Non-Firm Sales delivered pursuant to Parts I and II of the Guidelines, plus losses, plus power sales under a reserve sharing program. This limitation shall not apply to changes in the operation of a Transmission Customer's Network Resources at the request of TVA to respond to an emergency or other unforeseen condition which may impair or degrade the reliability of the Transmission System. For all Network Resources not physically connected with TVA's Transmission System, the Network Customer may not schedule delivery of energy in excess of the Network Resource's capacity, as specified in the Network Customer's Application pursuant to Section 29 (Initiating Network Integration Transmission Service), unless the Network Customer supports such delivery within TVA's Transmission System by either obtaining Point-to-Point Transmission Service or utilizing secondary service pursuant to Section 28.4 (Secondary Service). TVA shall specify the rate treatment and all related terms and conditions applicable in the event that a Network Customer's schedule at the delivery point for a Network Resource not physically interconnected with TVA's Transmission System exceeds the Network Resource's designated capacity, excluding energy delivered using secondary service or Point-to-Point Transmission Service.

30.5 Network Customer Redispatch Obligation

As a condition to receiving Network Integration Transmission Service, the Network Customer agrees to redispatch its Network Resources as requested by TVA pursuant to Section 33.2 (Transmission Constraints). To the extent practical, the redispatch of resources pursuant to this section shall be on a least cost, non-discriminatory basis between all Network Customers and TVA.

30.6 Transmission Arrangements for Network Resources Not Physically Interconnected with TVA

The Network Customer shall be responsible for any arrangements necessary to deliver capacity and energy from a Network Resource not physically interconnected with TVA's Transmission System. TVA will undertake reasonable efforts to assist the Network Customer in obtaining such arrangements, including without limitation, providing any information or data required by such other entity consistent with Good Utility Practice.

30.7 Limitation on Designation of Network Resources

The Network Customer must demonstrate that it owns or has committed to purchase generation pursuant to an executed contract in order to designate a generating resource as a Network Resource. Alternatively, the Network Customer may establish that execution of a contract is contingent upon the availability of Network Integration Transmission Service under Parts I and III of the Guidelines.

30.8 Use of Interface Capacity by the Network Customer

There is no limitation upon a Network Customer's use of TVA's Transmission System at any particular interface to integrate the Network Customer's Network Resources (or substitute economy purchases) with its Network Loads. However, a Network Customer's use of TVA's total interface capacity with other transmission systems may not exceed the Network Customer's Load.

30.9 Network Customer Owned Transmission Facilities

The Network Customer that owns existing transmission facilities that are integrated with TVA's Transmission System may be eligible to receive consideration either through a billing credit or some other mechanism. In order to receive such consideration the Network Customer must demonstrate that its transmission facilities are integrated in a manner consistent with Good Utility Practice into the plans or operations of TVA to serve its power and transmission customers. For such facilities added by the Network Customer subsequent to the effective date of TVA's Transmission Service Guidelines Fiscal Year 2009 Edition, the Network Customer shall receive credit for such transmission facilities added if such facilities are integrated into the operations of TVA's facilities; provided however, the Network Customer's transmission facilities shall be presumed to be integrated if such transmission facilities, if owned by TVA, would be eligible for inclusion in TVA's annual transmission revenue requirement as specified in Attachment H. Calculation of any credit under this subsection shall be addressed in either the Network Customer's Service Agreement or any other agreement between the Parties.

31 Designation of Network Load**31.1 Network Load**

The Network Customer must designate the individual Network Loads on whose behalf TVA will provide Network Integration Transmission Service. The Network Loads shall be specified in the Service Agreement.

31.2 New Network Loads Connected with TVA

The Network Customer shall provide TVA with as much advance notice as reasonably practicable of the designation of new Network Load that will be added to its Transmission System. A designation of new Network Load must be made through a modification of service pursuant to a new Application. TVA will use due diligence to install any transmission facilities required to interconnect a new Network Load designated by the Network Customer. The costs of new facilities required to interconnect a new Network Load shall be determined in accordance with the procedures provided in Section 32.4 (Facilities Study Procedures) and shall be charged to the Network Customer consistent with applicable law and Commission policy compatible therewith.

31.3 Network Load Not Physically Interconnected with TVA

This section applies to both initial designation pursuant to Section 31.1 (Network Load) and the subsequent addition of new Network Load not physically

interconnected with TVA. To the extent that the Network Customer desires to obtain Transmission Service for a load outside TVA's Transmission System, the Network Customer shall have the option of (1) electing to include the entire load as Network Load for all purposes under Parts I and III of the Guidelines and designating Network Resources in connection with such additional Network Load, or (2) excluding that entire load from its Network Load and purchasing Point-To-Point Transmission Service under Parts I and II of the Guidelines. To the extent that the Network Customer gives notice of its intent to add a new Network Load as part of its Network Load pursuant to this section the request must be made through a modification of service pursuant to a new Application.

31.4 New Interconnection Points

To the extent the Network Customer desires to add a new Point of Delivery or interconnection point between TVA's Transmission System and a Network Load, the Network Customer shall provide TVA with as much advance notice as reasonably practicable. The costs of new facilities required to interconnect a new Point of Delivery or interconnection point will be determined in accordance with the procedures provided in Section 32.4 (Facilities Study Procedures) and will be charged to the Network Customer consistent with applicable law and Commission policy compatible therewith.

31.5 Changes in Service Requests

Under no circumstances shall the Network Customer's decision to cancel or delay a requested change in Network Integration Transmission Service (e.g., the addition of a new Network Resource or designation of a new Network Load) in any way relieve the Network Customer of its obligation to pay the costs of transmission facilities constructed by TVA and charged to the Network Customer as reflected in the Service Agreement. However, TVA shall treat any requested change in Network Integration Transmission Service in a non-discriminatory manner.

31.6 Annual Load and Resource Information Updates

The Network Customer shall provide TVA with annual updates of Network Load and Network Resource forecasts consistent with those included in its Application for Network Integration Transmission Service under Parts I and III of the Guidelines including, but not limited to, any information provided under Section 29.2(I). The Network Customer also shall provide TVA with timely written notice of material changes in any other information provided in its Application relating to the Network Customer's Network Load, Network Resources, its transmission system or other aspects of its facilities or operations affecting TVA's ability to provide reliable service.

32 Additional Study Procedures for Network Integration Transmission Service Requests

32.1 Notice of Need for System Impact Study

After receiving a request for service, TVA shall determine on a non-discriminatory basis whether a System Impact Study is needed. A description of TVA's methodology for completing a System Impact Study is provided in Attachment D. If TVA determines that a System Impact Study is necessary to accommodate the

requested service, it shall so inform the Eligible Customer, as soon as practicable. In such cases, TVA shall within thirty (30) days of receipt of a Completed Application, tender a System Impact Study Agreement pursuant to which the Eligible Customer shall agree to reimburse TVA for performing the required System Impact Study. For a service request to remain a Completed Application, the Eligible Customer shall execute the System Impact Study Agreement and return it to TVA within fifteen (15) days (unless a mutually agreed upon alternate schedule is established). If the Eligible Customer elects not to execute the System Impact Study Agreement, its Application shall be deemed withdrawn and its deposit, if cash, shall be returned with interest calculated in accordance with Section 10 (Creditworthiness).

32.2 System Impact Study Agreement and Cost Reimbursement

- (A)** The System Impact Study Agreement will clearly specify TVA's estimate of the actual cost, and time for completion of the System Impact Study. The charge shall not exceed the actual cost of the study. In performing the System Impact Study, TVA shall rely, to the extent reasonably practicable, on existing transmission planning studies. The Eligible Customer will not be assessed a charge for such existing studies; however, the Eligible Customer will be fully responsible for charges associated with any modifications to existing planning studies that are reasonably necessary to evaluate the impact of the Eligible Customer's request for service on the Transmission System.
- (B)** If in response to multiple Eligible Customers requesting service in relation to the same competitive solicitation, a single System Impact Study is sufficient for TVA to accommodate the service requests, the costs of that study shall be pro-rated among the Eligible Customers.
- (C)** For System Impact Studies that TVA conducts on its own behalf, TVA shall record the cost of the System Impact Studies pursuant to Section 7 (Accounting for TVA's Use of the Guidelines).

32.3 System Impact Study Procedures

Upon receipt of an executed System Impact Study Agreement, TVA will use due diligence to complete the required System Impact Study within a sixty (60) day period. The System Impact Study shall identify (1) any system constraints, identified with specificity by transmission element or flowgate, (2) redispatch options (when requested by an Eligible Customer) including, to the extent possible, an estimate of the cost of redispatch, (3) available options for installation of automatic devices to curtail service (when requested by an Eligible Customer), and (4) the need for any modifications to TVA's Transmission System including Direct Assignment Facilities and Network Upgrades. For customers requesting the study of redispatch options, the System Impact Study shall (1) identify all resources located within TVA's Control Area that can significantly contribute toward relieving the system constraint and (2) provide a measurement of each resource's impact on the system constraint. If TVA possesses information indicating that any resource outside its Control Area could relieve the constraint, it shall identify each such resource in the System Impact Study. In the event that TVA is unable to complete the required System Impact Study within such time period, it shall so notify the

Eligible Customer and provide an estimated completion date along with an explanation of the reasons why additional time is required to complete the required studies. A copy of the completed System Impact Study and related work papers shall be made available to the Eligible Customer as soon as the System Impact Study is complete. TVA will use the same due diligence in completing the System Impact Study for an Eligible Customer as it uses when completing studies for itself. TVA shall notify the Eligible Customer immediately upon completion of the System Impact Study if the Transmission System will be adequate to accommodate all or part of a request for service or that no costs are likely to be incurred for new transmission facilities or upgrades. Where the existing TVA Transmission System was found to be adequate, in order for a request to remain a Completed Application, within fifteen (15) days of completion of the System Impact Study and TVA's tender to the Eligible Customer of a Service Agreement, the Eligible Customer must execute a Service Agreement (unless a mutually agreed upon alternate schedule is established), or the Application shall be deemed terminated and withdrawn.

32.4 Facilities Study Procedures

If a System Impact Study indicates that additions or upgrades to the Transmission System are needed to supply the Eligible Customer's service request, TVA, within thirty (30) days of the completion of the System Impact Study, shall tender to the Eligible Customer a Facilities Study Agreement pursuant to which the Eligible Customer shall agree to reimburse TVA for performing the required Facilities Study. For a service request to remain a Completed Application, the Eligible Customer shall execute the Facilities Study Agreement and return it to TVA within fifteen (15) days of receipt (or otherwise agreed upon date). If the Eligible Customer elects not to execute the Facilities Study Agreement, its Application shall be deemed withdrawn and its deposit, if cash, shall be returned with interest calculated in accordance with Section 10 (Creditworthiness). Upon receipt of an executed Facilities Study Agreement, TVA will use due diligence to complete the required Facilities Study within a sixty (60) day period. If TVA is unable to complete the Facilities Study in the allotted time period, TVA shall notify the Eligible Customer and provide an estimate of the time needed to reach a final determination along with an explanation of the reasons that additional time is required to complete the study. When completed, the Facilities Study will include a good faith estimate of (i) the cost of Direct Assignment Facilities to be charged to the Eligible Customer, (ii) the Eligible Customer's appropriate share of the cost of any required Network Upgrades, and (iii) the time required to complete such construction and initiate the requested service.

TVA will present the results of the study to the Eligible Customer, provide an invoice for the actual cost of the Facilities Study (adjusted to credit the amount of any initial payment and refund any overpayment if applicable), and tender a Service Agreement under which the Eligible Customer would agree to receive Transmission Service upon completion of the modifications and agree to compensate TVA for all costs of Direct Assignment Facilities and other modifications that are necessary to satisfy the Eligible Customer's request for Transmission Service pursuant to these Guidelines. (Due to limitations on its borrowing authority under the TVA Act, TVA reserves the right to require payment in advance sufficient to cover the costs of modifications.)

The Eligible Customer shall provide TVA with a letter of credit or other reasonable form of security acceptable to TVA equivalent to the costs of new facilities or upgrades consistent with commercial practices as established by the Uniform Commercial Code consistent with Section 10 (Creditworthiness). The Eligible Customer shall have thirty (30) days to execute a Service Agreement and provide the required letter of credit or other form of security or the request no longer will be a Completed Application and shall be deemed terminated and withdrawn.

33 Load Shedding and Curtailments

33.1 Procedures

Prior to the Service Commencement Date, TVA and the Network Customer shall establish Load Shedding and Curtailment procedures pursuant to the Network Operating Agreement and consistent with the applicable NERC Standards with the objective of responding to contingencies on the Transmission System and on systems directly and indirectly interconnected with TVA's Transmission System. The Parties will implement such programs during any period when TVA determines that a system contingency exists and such procedures are necessary to alleviate such contingency. TVA will notify all affected Network Customers in a timely manner of any scheduled Curtailments to the extent practicable and consistent with Good Utility Practice. When advanced notice cannot be provided by TVA consistent with Good Utility Practice, the Network Customer shall make the required reductions immediately upon request by TVA.

33.2 Transmission Constraints

During any period when TVA determines that a transmission constraint exists on the Transmission System, and such constraint may impair the reliability of TVA's system, TVA will take whatever actions, consistent with Good Utility Practice and the applicable NERC Standards, that are reasonably necessary to maintain the reliability of TVA's system. To the extent TVA determines that the reliability of the Transmission System can be maintained by redispatching resources, TVA will initiate procedures pursuant to the Network Operating Agreement to redispatch all Network Resources and TVA's own resources on a least-cost basis without regard to the ownership of such resources. Any redispatch under this section may not unduly discriminate between TVA's use of the Transmission System on behalf of its Native Load Customers and any Network Customer's use of the Transmission System to serve its designated Network Load.

33.3 Cost Responsibility for Relieving Transmission Constraints

Whenever TVA implements least-cost redispatch procedures in response to a transmission constraint, TVA and Network Customers will each bear a proportionate share of the total Redispatch Cost based on their respective Load Ratio Shares.

33.4 Curtailments of Scheduled Deliveries

If a transmission constraint on TVA's Transmission System is not relieved through the implementation of least-cost redispatch procedures and TVA determines that it is necessary to curtail scheduled deliveries, the Parties shall curtail such schedules

in accordance with the Network Operating Agreement or pursuant to the Transmission Loading Relief procedures specified in Attachment K.

33.5 Allocation of Curtailments

TVA shall, on a non-discriminatory basis, curtail the transaction(s) that effectively relieve the constraint. If multiple transactions require Curtailment, to the extent practicable and consistent with Good Utility Practice, any Curtailment will be shared by TVA and the Network Customer in proportion to their respective Load Ratio Shares. TVA shall not direct the Network Customer to curtail schedules to an extent greater than TVA would curtail TVA's schedules under similar circumstances.

33.6 Load Shedding

To the extent that a system contingency exists on TVA's Transmission System and TVA determines that it is necessary for TVA and the Network Customer to shed load, the Parties shall shed load in accordance with previously established procedures under the Network Operating Agreement.

33.7 System Reliability

Notwithstanding any other provisions of these Guidelines, TVA reserves the right, consistent with Good Utility Practice and on a not unduly discriminatory basis, to curtail Network Integration Transmission Service without liability on TVA's part for the purpose of making necessary adjustments to, changes in, or repairs on its lines, substations and facilities, and in cases where the continuance of Network Integration Transmission Service would endanger persons or property. In the event of any adverse condition(s) or disturbance(s) on TVA's Transmission System or on any other system(s) directly or indirectly interconnected with TVA's Transmission System, TVA, consistent with Good Utility Practice, also may curtail Network Integration Transmission Service in order to (i) limit the extent or damage of the adverse condition(s) or disturbance(s), (ii) prevent damage to generating or transmission facilities, or (iii) expedite restoration of service. TVA will give the Network Customer as much advance notice as is practicable in the event of such Curtailment. Any Curtailment of Network Integration Transmission Service will be not unduly discriminatory relative to TVA's use of the Transmission System on behalf of its Native Load Customers. The rate treatment and all related terms and conditions applicable in the event that the Network Customer fails to respond to established Load Shedding and Curtailment procedures will be specified in the Service Agreement and the Network Operating Agreement.

34 Rates and Charges

The Network Customer shall pay TVA for any Direct Assignment Facilities, Network Upgrades, other system modifications, Ancillary Services, and applicable study costs, consistent with applicable law and Commission policy compatible therewith, along with the following:

34.1 Monthly Demand Charge

The Network Customer shall pay a monthly Demand Charge, which shall be determined by multiplying its Load Ratio Share times one twelfth (1/12) of TVA's Annual Transmission Revenue Requirement specified in Attachment H.

34.2 Determination of Network Customer's Monthly Network Load

The Network Customer's monthly Network Load is its hourly load (including its designated Network Load not physically interconnected with TVA under Section 31.3 (Network Load Not Physically Interconnected with TVA)), coincident with TVA's Monthly Transmission System Peak.

34.3 Determination of TVA's Monthly Transmission System Load

TVA's monthly Transmission System load is TVA's Monthly Transmission System Peak minus the coincident peak usage of all Firm Point-To-Point Transmission Service customers pursuant to Parts I and II of these Guidelines plus the Reserved Capacity of all Firm Point-To-Point Transmission Service customers.

34.4 Determination of TVA's Monthly Optional Ancillary Services Load

TVA's monthly optional ancillary services load is TVA's Monthly Transmission System Peak minus the coincident peak usage of all Firm Point-To-Point Transmission Service customers pursuant to Parts I and II of these Guidelines minus the coincident peak usage of all Network Customers pursuant to Parts I and III of these Guidelines plus the coincident peak usage of all Network Customers which purchase one or more of the following Ancillary Services from TVA under Section 3 (Ancillary Services): (i) Regulation and Frequency Response, (ii) Operating Reserve - Spinning, or (iii) Operating Reserve - Supplemental.

34.5 Redispatch Charge

The Network Customer shall pay any Redispatch Costs allocated between the Network Customer and TVA pursuant to Section 33 (Load Shedding and Curtailments). To the extent that TVA incurs an obligation to the Network Customer for Redispatch Costs in accordance with Section 33.2 (Transmission Constraints), such amounts shall be credited against the Network Customer's bill for the applicable month.

34.6 Stranded Cost Recovery

TVA may recover stranded costs from the Network Customer pursuant to these Guidelines consistent with the terms, conditions and procedures set forth in FERC Order No. 888 and other applicable law.

35 Operating Arrangements**35.1 Operation under the Network Operating Agreement**

The Network Customer shall plan, construct, operate and maintain its facilities in accordance with Good Utility Practice and in conformance with the Network Operating Agreement.

35.2 Network Operating Agreement

The terms and conditions under which the Network Customer shall operate its facilities and the technical and operational matters associated with the implementation of Parts I and III of the Guidelines shall be specified in the Network Operating Agreement. The Network Operating Agreement shall provide for the Parties to (i) operate and maintain equipment necessary for integrating the Network Customer within TVA's Transmission System (including, but not limited to, remote terminal units, metering, communications equipment and relaying equipment), (ii) transfer data between TVA and the Network Customer (including, but not limited to, heat rates and operational characteristics of Network Resources, generation schedules for units outside TVA's Transmission System, interchange schedules, unit outputs for redispatch required under Section 33 (Load Shedding and Curtailments), voltage schedules, loss factors and other real time data), (iii) use software programs required for data links and constraint dispatching, (iv) exchange data on forecasted loads and resources necessary for long-term planning, and (v) address any other technical and operational considerations required for implementation of Parts I and III of the Guidelines, including scheduling protocols. The Network Operating Agreement will recognize that the Network Customer shall either (i) operate as a Control Area under applicable Standards of the Electric Reliability Organization (ERO) as defined in 18 C.F.R. §39.1, (ii) satisfy its Control Area requirements, including all necessary Ancillary Services, by contracting with TVA, or (iii) satisfy its Control Area requirements, including all necessary Ancillary Services, by contracting with another entity, consistent with Good Utility Practice, which satisfies the applicable reliability Standards of the ERO. TVA shall not unreasonably refuse to accept contractual arrangements with another entity for Ancillary Services. The Network Operating Agreement is described in Attachment G.

35.3 Network Operating Committee

A Network Operating Committee (Committee) shall be established to coordinate operating criteria for the Parties' respective responsibilities under the Network Operating Agreement. Each Network Customer shall be entitled to have at least one representative on the Committee. The Committee shall meet from time to time as need requires, but no less than once each calendar year.

SCHEDULE 1**Scheduling, System Control and Dispatch Service**

- I. Description:** This service is required to schedule the movement of power through, out of, within, or into a Control Area. This service can be provided only by the Transmission Service Provider for the area in which the transmission facilities used for Transmission Service are located. Scheduling, System Control and Dispatch Service is to be provided directly by TVA. The Transmission Customer purchasing Transmission Service from TVA must purchase Scheduling, System Control and Dispatch Service from TVA. The charges for Scheduling, System Control and Dispatch Service are based on the rates set forth below.
- A. Rates for Point-To-Point Transmission Service:** The Transmission Customer shall compensate TVA each month for Reserved Capacity at the sum of the applicable charges set forth below:
- Yearly Service Charge** = one-twelfth of the demand charge of \$1.896/kW of Reserved Capacity per year
Monthly Service Charge = \$0.158/kW of Reserved Capacity per month
Weekly Service Charge = \$0.0364/kW of Reserved Capacity per week
Daily Service Charge = \$0.00728/kW of Reserved Capacity per day
Hourly Service Charge = \$0.000455/kW of Reserved Capacity per hour
- The total charge in any day, pursuant to a reservation for Hourly Service, shall not exceed the rate specified for the Daily Service Charge above times the highest amount in kilowatts of Reserved Capacity in any hour during such day. In addition, the total demand charge in any week, pursuant to a reservation for Hourly Service or Daily Service, shall not exceed the rate specified for the Weekly Service Charge above times the highest amount in kilowatts of Reserved Capacity in any hour during such week.
- TVA may agree to provide additional scheduling services to allow for coordination of special schedules between Control Areas. The charge for such services will be negotiated between the Parties.
- B. Rates for Network Integration Transmission Service:** The annual revenue requirement for Scheduling, System Control and Dispatch Service is \$54,473,154. Each Network Customer will pay for this service monthly, and the charge will be determined by multiplying its Load Ratio Share times one twelfth (1/12) of the revenue requirement specified above.
- Equipment necessary for dynamic scheduling and additional costs related to scheduling will be addressed in the Service Agreement for Network Integration Transmission Service.
- II. Discounts:** If TVA attributes a discounted Scheduling, System Control and Dispatch Service rate to its own Third-Party Sale transactions, TVA will offer for the same period the same discounted Scheduling, System Control and Dispatch Service rate to all Eligible Customers. Information regarding any discounted Scheduling, System Control and Dispatch Service rates will be posted on the OASIS. In addition, discounts to Eligible Customers will be offered in a manner that is not unduly discriminatory.

- III. Unauthorized Use:** Charges for Scheduling, System Control and Dispatch Service used by the Transmission Customer in conjunction with unauthorized use of Point-to-Point Transmission Service or Network Integration Transmission Service will be the applicable charges (Hourly Service, Daily Service, Weekly Service, or Monthly Service) applied to the highest kilowatt amount of actual unauthorized service use in the applicable period as follows:

Highest use in a single hour times the Hourly Service Charge, highest use in more than one hour in the same calendar day times the Daily Service Charge, highest use in more than one calendar day of the same calendar week times the Weekly Service Charge, highest use in more than one calendar week in a calendar month times the Monthly Service Charge. The Transmission Customer by taking the unauthorized service agrees to be charged as provided above.

SCHEDULE 2**Reactive Supply and Voltage Control from Generation or Other Sources Service**

- I. **Description:** In order for the Transmission Operator to maintain transmission voltages on TVA's transmission facilities within acceptable limits, generation facilities and non-generation resources capable of providing this service that are under the control of the Balancing Authority are operated to produce (or absorb) reactive power. Thus, Reactive Supply and Voltage Control from Generation or Other Sources Service (Reactive Service) must be provided for each transaction on TVA's transmission facilities. The amount of Reactive Service that must be supplied with respect to the Transmission Customer's transaction will be determined based on the reactive power support necessary to maintain transmission voltages within limits that are generally accepted in the region and consistently adhered to by TVA.

Reactive Service is to be provided directly by TVA. The Transmission Customer purchasing Transmission Service from TVA must purchase Reactive Service from TVA. The charges for such service will be based on the rates set forth below.

- A. **Rates for Point-To-Point Transmission Service:** The Transmission Customer shall compensate TVA each month for Reserved Capacity at the sum of the applicable charges set forth below:

Yearly Service Charge = one-twelfth of the demand charge of \$3.048/kW of Reserved Capacity per year

Monthly Service Charge = \$0.254/kW of Reserved Capacity per month

Weekly Service Charge = \$0.0586/kW of Reserved Capacity per week

Daily Service Charge = \$0.01172/kW of Reserved Capacity per day

Hourly Service Charge = \$0.000733/kW of Reserved Capacity per hour

The total charge in any day, pursuant to a reservation for Hourly Service, shall not exceed the rate specified for the Daily Service Charge above times the highest amount in kilowatts of Reserved Capacity in any hour during such day. In addition, the total demand charge in any week, pursuant to a reservation for Hourly Service or Daily Service, shall not exceed the rate specified for the Weekly Service Charge above times the highest amount in kilowatts of Reserved Capacity in any hour during such week.

- B. **Rates for Network Integration Transmission Service:** The annual revenue requirement for Reactive Service is \$87,691,680. Each Network Customer will pay for this service monthly, and the charge will be determined by multiplying its Load Ratio Share times one twelfth (1/12) of the revenue requirement specified above.

The Network Customer will within the shortest time practicable, but before one (1) year after service begins under these Guidelines, have sufficient reactive compensation and control to meet the power factor requirements specified below (such range will be adhered to except for momentary deviations or at TVA's written consent) at each Point of Delivery or interconnection with the Network Customer. The power factor requirements specified below apply to loads connected to the TVA Transmission System.

POWER FACTOR REQUIREMENTS

On-Peak**Hours 0.97 (lagging) to 0.98 (leading)****Off-Peak****Hours 0.95 (lagging) to 1.00 (unity)**

- II. Additional Charges:** If TVA determines that (a) such Network Customer's power factor exceeds the ranges in Section I above or (b) any other Transmission Customer imposes an undue reactive burden (as determined based on Good Utility Practice) on the TVA Transmission System, in addition to the appropriate charge above, TVA reserves the right to install equipment needed to maintain proper voltage control. In this case, all costs of installing such equipment shall be paid by the Transmission Customer. TVA also reserves the right to charge the Transmission Customer for Redispatch Costs when necessary to correct for the Transmission Customer's undue reactive burden or the Network Customer's power factor exceeding the ranges in Section I-B above or to charge for hydroelectric units operating in a condensing mode (motoring charge) when necessary to correct such a situation.
- III. Discounts:** If TVA attributes a discounted Reactive Service rate to its own Third-Party Sale transactions, TVA will offer for the same period the same discounted Reactive Service rate to all Eligible Customers. Information regarding any discounted Reactive Service rates will be posted on the OASIS. In addition, discounts to Eligible Customers will be offered in a manner that is not unduly discriminatory.
- IV. Unauthorized Use:** Charges for Reactive Service used by the Transmission Customer in conjunction with unauthorized use of Point-to-Point Transmission Service or Network Integration Transmission Service will be the applicable charges (Hourly Service, Daily Service, Weekly Service, or Monthly Service) applied to the highest kilowatt amount of actual unauthorized service use in the applicable period as follows:
- Highest use in a single hour times the Hourly Service Charge, highest use in more than one hour in the same calendar day times the Daily Service Charge, highest use in more than one calendar day of the same calendar week times the Weekly Service Charge, highest use in more than one calendar week in a calendar month times the Monthly Service Charge. The Transmission Customer by taking the unauthorized service agrees to be charged as provided above.

SCHEDULE 3***Regulation and Frequency Response Service**

- I. **Description:** Regulation and Frequency Response Service is necessary to provide for the continuous balancing of resources (generation and interchange) with load and for maintaining scheduled interconnection frequency at sixty cycles per second (60 Hz). Regulation and Frequency Response Service is accomplished by committing on-line generation whose output is raised or lowered (predominantly through the use of automatic generating control equipment) and by other non-generation resources capable of providing this service as necessary to follow the moment-by-moment changes in load. The obligation to maintain this balance between resources and load lies with TVA. This service applies to a Transmission Customer when Transmission Service provided by TVA is used to serve load within TVA's Control Area.

The Transmission Customer must either purchase this service from TVA or make alternative comparable arrangements that TVA agrees will satisfy the Transmission Customer's Regulation and Frequency Response Service obligation. The amount of and charges for Regulation and Frequency Response Service are set forth below.

- II. **Rates for Point to Point Transmission Service**:** The Transmission Customer taking Point-to-Point Transmission Service shall compensate TVA each month for an availability charge for Regulation and Frequency Response Service provided by TVA at the sum of the applicable charges set forth below:

Monthly Service Charge: \$0.194/kW of Reserved Capacity per month

Where:

kW is the Transmission Customer's Reserved Capacity for which Regulation and Frequency Response Service is provided by TVA, which is the sum of the capacity reservations at the Point(s) of Delivery.

The Transmission Customer's payment obligation for Regulation and Frequency Response Service is incurred upon reservation of such service. Non-use of the reserved Transmission Service or Regulation and Frequency Response Service by the Transmission Customer for any reason or cause will not relieve the Transmission Customer of payment.

- III. **Rates for Network Integration Transmission Service**:** The Network Customer shall compensate TVA each month for an availability charge for Regulation and Frequency Response Service provided by TVA at the sum of such customer's monthly Optional Ancillary Services Load Ratio Share calculated on a rolling twelve month basis multiplied by one-twelfth (1/12) of the annual revenue requirements of \$62,869,461 for Regulation and Frequency Response Service.
- IV. **Unauthorized Use:** Charges for Regulation and Frequency Response Service used by the Transmission Customer in conjunction with unauthorized use of Point-to-Point Transmission Service or Network Integration Transmission Service will be the Monthly Service Charge applied to the highest kilowatt amount of actual unauthorized service use in the month. The Transmission Customer by taking the unauthorized service agrees to be charged as provided above.

* All charges will be adjusted to account for applicable transmission losses.

** The Transmission Customer will also compensate TVA for any applicable Energy Imbalance Service charge (see Schedule 4 - Energy Imbalance Service) resulting from TVA's provision of Regulation and Frequency Response Service to the Transmission Customer.

SCHEDULE 4***Energy Imbalance Service**

- I. Description:** Energy Imbalance Service is provided when a difference occurs between the scheduled and the actual delivery of energy to a load located within a Control Area over a single hour. This service applies to a Transmission Customer when Transmission Service provided by TVA is used to serve load within TVA's Control Area. The Transmission Customer must either purchase this service from TVA or make alternative comparable arrangements, which may include use of non-generation resources capable of providing this service, that TVA agrees will satisfy the Transmission Customer's Energy Imbalance Service obligation. Where there is the potential during any hour for TVA charging a Transmission Customer for energy imbalance under this Schedule or charging a generator for generator imbalance under the imbalance provisions of its interconnection agreement with TVA, TVA may either charge the Transmission Customer for energy imbalance under this Schedule or the generator for generator imbalance under the interconnection agreement, but not both, unless application of both charges is needed to compensate TVA for the imbalance. Energy imbalance amounts will be rounded to the nearest whole MWh.

In determining the appropriate charges for energy imbalance, TVA will apply a three band pricing structure as described in Sections II, III, and IV below. The appropriate charges will be determined by either the Transmission Customer's percentage deviation from the scheduled transaction or the megawatt hour deviation. If an energy imbalance exceeds either the percentage limits or the megawatt hour limits for a deviation band, the imbalance charges will be based on higher band charges.

- II. Deviation Band I:** If the energy imbalance is less than or equal to +/- one and five-tenths percent (1.5%) of the scheduled transaction and the deviation is 2 MWh or less, the Transmission Customer will be subject to the charges for Energy Imbalance Service set forth below:
- A. If the scheduled amount is greater than the load integrated over a clock hour, TVA will pay the Transmission Customer 100 percent of TVA's decremental cost for the clock hour for the entire amount of energy that is provided in excess of the load integrated over the clock hour.
 - B. If the load integrated over a clock hour is greater than the scheduled amount, the Transmission Customer will pay TVA 100 percent of TVA's incremental cost for the clock hour for the entire amount of energy that TVA provided in excess of the scheduled amount.

Energy imbalances that are less than or equal to one and five-tenths percent (1.5%) of the scheduled transaction but that exceed 2 MWh will fall into Band II if the deviation is greater than 2 MWh and less than or equal to 10 MWh or into Band III if the deviation is greater than 10 MWh. Likewise, energy imbalances that are less than or equal to 2 MWh but greater than one and five-tenths percent (1.5%) of the scheduled transaction will fall into Band II if the deviation is greater than 1.5% and less than or equal to 7.5% of the scheduled transaction or into Band III if the deviation is greater than 7.5% of the scheduled transaction.

- III. Deviation Band II:** If the energy imbalance is greater than +/- one and five-tenths percent (1.5%) and less than or equal to seven and five-tenths percent (7.5%) of the scheduled

transaction, or if the energy imbalance is greater than 2 MWh and less than or equal to 10 MWh, the Transmission Customer will be subject to the charges for Energy Imbalance Service set forth below:

- A. If the scheduled amount is greater than the load integrated over a clock hour, TVA will pay the Transmission Customer 90 percent of TVA's decremental cost for the clock hour for the entire amount of energy that is provided in excess of the load integrated over the clock hour. The Transmission Customer is also responsible for any additional costs directly attributable to a schedule that exceeds the load by an excess of 1.5% (e.g., if the energy imbalance occurs during a load turndown period where units are at minimum generation, units may have to be taken off line, there may be forced pumping out of economic order at TVA's pumped storage facility to increase the load, interchange power may be sold at less than marginal cost, etc.).
- B. If the load integrated over a clock hour is greater than the scheduled amount, the Transmission Customer will pay TVA 110 percent of TVA's incremental cost for the clock hour for the entire amount of energy that TVA provided in excess of the scheduled amount.

Energy imbalances that are less than or equal to seven and five-tenths percent (7.5%) of the scheduled transaction but greater than 10 MWh will fall into Band III. Likewise, energy imbalances that are less than or equal to 10 MWh but greater than 7.5% of the scheduled transaction will fall into Band III.

IV. Deviation Band III: If the energy imbalance is greater than +/- seven and five-tenths percent (7.5%) of the scheduled transaction or if the energy imbalance is greater than 10 MWh, the Transmission Customer will be subject to the charges for Energy Imbalance Service set forth below:

- A. If the scheduled amount is greater than the load integrated over a clock hour, TVA will pay the Transmission Customer 75 percent of TVA's decremental cost for the clock hour for the entire amount of energy that is provided in excess of the load integrated over the clock hour. The Transmission Customer is also responsible for any additional costs directly attributable to a schedule that exceeds the load by an excess of 1.5% (e.g., if the energy imbalance occurs during a load turndown period where units are at minimum generation, units may have to be taken off line, there may be forced pumping out of economic order at TVA's pumped storage facility to increase the load, interchange power may be sold at less than marginal cost, etc.).
- B. If the load integrated over a clock hour is greater than the scheduled amount, the Transmission Customer will pay TVA 125 percent of TVA's incremental cost for the clock hour for the entire amount of energy that TVA provided in excess of the scheduled amount.

For purposes of this Schedule, incremental cost and decremental cost represent TVA's actual hourly cost of the last 20 MW dispatched to meet total demand on the system for any purpose including to supply TVA's Native Load Customers, correct imbalances, or make off-system sales, based on the replacement cost of fuel, unit heat rates, start-up costs (including any commitment and redispatch costs), incremental operation and maintenance costs, and purchased and interchange power costs, as applicable.

* All charges will be adjusted to account for applicable transmission losses.

SCHEDULE 5***Operating Reserve - Spinning Reserve Service**

- I. **Description:** Spinning Reserve Service is needed to serve load immediately in the event of a system contingency. Spinning Reserve Service may be provided for 15 minutes by generating units that are on-line and loaded at less than maximum output and by non-generation resources capable of providing this service. This service applies to a Transmission Customer when Transmission Service provided by TVA is used to serve load within TVA's Control Area.

The Transmission Customer must either purchase this service from TVA or make alternative comparable arrangements that TVA agrees will satisfy the Transmission Customer's Spinning Reserve Service obligation. The amount of and charges for Spinning Reserve Service are set forth below.

- II. **Rates for Point to Point Transmission Service**:** The Transmission Customer taking Point-to-Point Transmission Service shall compensate TVA each month for an availability charge for Operating Reserve - Spinning Reserve Service provided by TVA at the sum of the applicable charges set forth below:

Monthly Service Charge: \$0.258/kW of Reserved Capacity per month

Where:

kW is the Transmission Customer's Reserved Capacity for which Operating Reserve - Spinning Reserve Service is provided by TVA, which is the sum of the capacity reservations at the Point(s) of Delivery.

The Transmission Customer's payment obligation for Operating Reserve - Spinning Reserve Service is incurred upon reservation of such service. Non-use of the reserved Transmission Service or Operating Reserve - Spinning Reserve Service by the Transmission Customer for any reason or cause will not relieve the Transmission Customer of payment.

- III. **Rates for Network Integration Transmission Service**:** The Network Customer shall compensate TVA each month for an availability charge for Operating Reserve - Spinning Reserve Service provided by TVA at the sum of such customer's monthly Optional Ancillary Services Load Ratio Share calculated on a rolling twelve month basis multiplied by one-twelfth (1/12) of the annual revenue requirements of \$83,913,739 for Operating Reserve - Spinning Reserve Service.
- IV. **Unauthorized Use:** Charges for Operating Reserve - Spinning Reserve Service used by the Transmission Customer in conjunction with unauthorized use of Point-to-Point Transmission Service or Network Integration Transmission Service will be the Monthly Service Charge applied to the highest kilowatt amount of actual unauthorized service use in the month. The Transmission Customer by taking the unauthorized service agrees to be charged as provided above.

* All charges will be adjusted to account for applicable transmission losses.

** The Transmission Customer will also compensate TVA for any applicable Energy Imbalance Service charge (see Schedule 4 - Energy Imbalance Service) resulting from TVA's provision of Operating Reserve - Spinning Reserve Service to the Transmission Customer.

SCHEDULE 6***Operating Reserve - Supplemental Reserve Service**

- I. **Description:** Supplemental Reserve Service is needed to serve load in the event of a system contingency; however, it is not available immediately to serve load but rather within a short period of time. Supplemental Reserve Service may be provided for 30 minutes** by generating units that are on-line but unloaded, by quick-start generation or by interruptible load or other non-generation resources capable of providing this service. This service applies to a Transmission Customer when Transmission Service provided by TVA is used to serve load within TVA's Control Area.

The Transmission Customer must either purchase this service from TVA or make alternative comparable arrangements that TVA agrees will satisfy the Transmission Customer's Supplemental Reserve Service obligation. The amount of and charges for Supplemental Reserve Service are set forth below.

- II. **Rates for Point to Point Transmission Service***:** The Transmission Customer taking Point-to-Point Transmission Service shall compensate TVA each month for an availability charge for Operating Reserve - Supplemental Reserve Service provided by TVA at the sum of the applicable charges set forth below:

Monthly Service Charge: \$0.079/kW of Reserved Capacity per month

Where:

kW is the Transmission Customer's Reserved Capacity for which Operating Reserve - Supplemental Reserve Service is provided by TVA, which is the sum of the capacity reservations at the Point(s) of Delivery.

The Transmission Customer's payment obligation for Operating Reserve - Supplemental Reserve Service is incurred upon reservation of such service. Non-use of the reserved Transmission Service or Operating Reserve - Supplemental Reserve Service by the Transmission Customer for any reason or cause will not relieve the Transmission Customer of payment.

- III. **Rates for Network Integration Transmission Service***:** The Network Customer shall compensate TVA each month for an availability charge for Operating Reserve - Supplemental Reserve Service provided by TVA at the sum of such customer's monthly Optional Ancillary Services Load Ratio Share calculated on a rolling twelve month basis multiplied by one-twelfth (1/12) of the annual revenue requirements of \$25,623,529 for Operating Reserve - Supplemental Reserve Service.
- IV. **Unauthorized Use:** Charges for Operating Reserve - Supplemental Reserve Service used by the Transmission Customer in conjunction with unauthorized use of Point-to-Point Transmission Service or Network Integration Transmission Service will be the Monthly Service Charge applied to the highest kilowatt amount of actual unauthorized service use in the month. The Transmission Customer by taking the unauthorized service agrees to be charged as provided above.

* All charges will be adjusted to account for applicable transmission losses.

** Under certain emergency conditions, TVA may agree to provide Supplemental Reserve Service for more than 30 minutes if TVA has power available.

*** The Transmission Customer will also compensate TVA for any applicable Energy Imbalance Service charge (see Schedule 4 - Energy Imbalance Service) resulting from TVA's provision of Operating Reserve - Supplemental Reserve Service to the Transmission Customer.

SCHEDULE 7**Long-Term Firm and Short-Term Firm Point-To-Point Transmission Service**

- I. The Transmission Customer shall compensate TVA each month for Reserved Capacity at the sum of the applicable charges set forth below:
- A. **Yearly Service Charge:** one-twelfth of the demand charge of \$18.612/kW of Reserved Capacity per year
 - B. **Monthly Service Charge:** \$1.551/kW of Reserved Capacity per month
 - C. **Weekly Service Charge:** \$0.358/kW of Reserved Capacity per week
 - D. **Daily Service Charge:** \$0.0716/kW of Reserved Capacity per day

Where:

kW is the Transmission Customer's Reserved Capacity, which is the sum of the capacity reservations at the Point(s) of Delivery.

The total demand charge in any week, pursuant to a reservation for Daily Service, shall not exceed the rate specified in Section (C) above times the highest amount in kilowatts of Reserved Capacity in any day during such week (plus an adjustment for any Redispatch Cost which exceeds the Weekly Service Charges).

The Transmission Customer's payment obligation for Firm Point-To-Point Transmission Service is incurred upon reservation of the Transmission Service. Non-use of the reserved Transmission Service by the Transmission Customer for any reason or cause will not relieve the Transmission Customer of payment.

- II. **Discounts:** Three principal requirements apply to discounts for transmission service as follows: (1) any offer of a discount made by TVA will be announced to all Eligible Customers solely by posting on the OASIS, (2) any customer-initiated requests for discounts (including requests by TVA for its own Third-Party Sales transactions) must occur solely by posting on the OASIS, and (3) once a discount is negotiated, details must be immediately posted on the OASIS. For any discount agreed upon for service on a path, from Point(s) of Receipt to Point(s) of Delivery, TVA will offer for the same time period the same discounted Firm Point-To-Point Transmission Service rate to all Eligible Customers on all unconstrained transmission paths that go to the same Point(s) of Delivery on TVA's Transmission System. Information regarding any firm transmission discounts will be posted on the OASIS consistent with Part 37 of the Commission's regulations as implemented by TVA. In addition, discounts to others will be offered in a manner that is not unduly discriminatory.
- III. **Resales:** The rates and rules governing charges and discounts stated above shall not apply to resales of transmission service, compensation for which shall be governed by Section 23.1 of these Guidelines (Procedures for Assignment or Transfer of Service).
- IV. **Unauthorized Use:** The charge for the unauthorized use of the TVA Transmission System for Point-to-Point Transmission Service or Network Integration Transmission Service is one hundred fifty (150) percent of the applicable rate specified in (A), (B), (C), or (D) in Section I above applied to the highest kilowatt amount of actual unauthorized service use in the applicable period as follows:

Highest use in any hour in the same calendar day times the Daily Service Charge, highest use in more than one calendar day of the same calendar week times the Weekly Service Charge, highest use in more than one calendar week in a calendar month times the Monthly Service Charge. The Transmission Customer by taking the unauthorized service agrees to be charged as provided above.

- V. Other Charges :** The Transmission Customer shall also pay other applicable charges in accordance with other provisions of these Guidelines or the Service Agreement.

SCHEDULE 8**Non-Firm Point-To-Point Transmission Service**

- I. The Transmission Customer shall compensate TVA each month for Non-Firm Point-To-Point Transmission Service at the rate in effect at the time Transmission Service is reserved. The rate will be greater than zero (0) but less than or equal to the sum of the applicable charges set forth below:
- A. **Monthly Service Charge:** \$1.551/kW of Reserved Capacity per month
 - B. **Weekly Service Charge:** \$0.358/kW of Reserved Capacity per week
 - C. **Daily Service Charge:** \$0.0716/kW of Reserved Capacity per day

Where:

kW is the Transmission Customer's Reserved Capacity, which is the sum of the capacity reservations at the Point(s) of Delivery.

The total demand charge in any week, pursuant to a reservation for Daily Service, shall not exceed the rate specified in Section (B) above times the highest amount of Reserved Capacity in any day during such week.

- D. **Hourly Service Charge:** The basic charge shall be that agreed upon by the Parties at the time this service is reserved and in no event shall exceed \$0.00448/kWh. The basic charge shall be applied to the Transmission Customer's Reserved Capacity, which is the sum of the capacity reservations at the Point(s) of Delivery. The total demand charge in any day, pursuant to a reservation for Hourly Service, shall not exceed the rate specified for the Daily Service Charge above times the highest amount in kilowatts of Reserved Capacity in any hour during such day. In addition, the total demand charge in any week, pursuant to a reservation for Hourly Service or Daily Service, shall not exceed the rate specified for the Weekly Service Charge above times the highest amount in kilowatts of Reserved Capacity in any hour during such week.

The Transmission Customer's payment obligation for Non-Firm Point-To-Point Transmission Service is incurred upon reservation of the Transmission Service. Non-use of the reserved Transmission Service by the Transmission Customer for any reason or cause will not relieve the Transmission Customer of payment, except if the non-use is a result of a Curtailment or Interruption due to a constraint on the TVA Transmission System.

- II. **Discounts:** Three principal requirements apply to discounts for transmission service as follows: (1) any offer of a discount made by TVA will be announced to all Eligible Customers solely by posting on the OASIS, (2) any customer-initiated requests for discounts (including requests by TVA for its own Third-Party Sales transactions) must occur solely by posting on the OASIS, and (3) once a discount is negotiated, details must be immediately posted on the OASIS. For any discount agreed upon for service on a path, from Point(s) of Receipt to Point(s) of Delivery, TVA will offer for the same time period the same discounted Non-Firm Point-To-Point Transmission Service rate to all Eligible Customers on all unconstrained transmission paths that go to the same Point(s) of Delivery on TVA's Transmission System. Information regarding any non-firm transmission discounts will be posted on the OASIS consistent with Part 37 of the Commission's regulations as implemented by TVA. In addition, discounts to others will be offered in a manner that is not unduly discriminatory.

- III. Resales:** The rates and rules governing charges and discounts stated above shall not apply to resales of transmission service, compensation for which shall be governed by Section 23.1 of these Guidelines (Procedures for Assignment or Transfer of Service).
- IV. Unauthorized Use:** The charge for the unauthorized use of the TVA Transmission System is one hundred fifty (150) percent of the applicable rate specified in (A), (B), (C), or (D) in Section I of Schedule 7 applied to the highest kilowatt amount of actual unauthorized service use in the applicable period as follows:

Highest use in any hour in the same calendar day times the Daily Service Charge, highest use in more than one calendar day of the same calendar week times the Weekly Service Charge, highest use in more than one calendar week in a calendar month times the Monthly Service Charge. The Transmission Customer by taking the unauthorized service agrees to be charged as provided above.

- V. Other Charges :** The Transmission Customer shall also pay other applicable charges in accordance with other provisions of these Guidelines or the Service Agreement.

ATTACHMENT A**Service Agreements for Firm Point-To-Point Transmission Service****I. Service Agreement for Long-Term Firm Point-To-Point Transmission Service**

- 1.0 This Service Agreement, dated and effective as of _____, is entered into, by and between the Tennessee Valley Authority ("TVA") and _____ ("Transmission Customer").
- 2.0 The Transmission Customer has been determined by TVA to have a Completed Application for Long-Term Firm Point-To-Point Transmission Service under TVA's Transmission Service Guidelines ("Guidelines"), associated with OASIS request number _____.
- 3.0 Based on TVA's creditworthiness determination, the Transmission Customer has provided to TVA an Application deposit in the amount of \$_____, in accordance with the provisions of the Guidelines.
- 4.0 Service under this Service Agreement shall commence on the later of _____ or the date on which construction of any Direct Assignment Facilities, Network Upgrades, and/or other modifications necessary to satisfy the request for Transmission Service are completed. Service under this Service Agreement shall terminate on _____.
- 5.0 TVA agrees to provide and the Transmission Customer agrees to take and pay for Long-Term Firm Point-To-Point Transmission Service in accordance with the provisions of Parts I and II of the Guidelines and this Service Agreement, including the Specifications for Long-Term Firm Point-To-Point Transmission Service.
- 6.0 Schedules for Long-Term Firm Point-To Point Transmission Service shall be furnished by the Transmission Customer to TVA in advance in accordance with the Guidelines.
- 7.0 TVA shall not be required to provide Transmission Service hereunder for the Transmission Customer for power and energy it does not own or otherwise have title to. Pursuant to the Energy Policy Act of 1992, TVA shall also not be required to provide Transmission Service hereunder to transmit electric energy for consumption within the area for which TVA may be a source of power supply in accordance with the Tennessee Valley Authority Act of 1933, as amended ("TVA Act"). In this regard, the Transmission Customer shall provide, at TVA's request (a) satisfactory evidence that the Transmission Customer owns or otherwise has title to the power and energy for which it requests Transmission Service and (b) adequate certification in writing that the power and energy for which it requests Transmission Service is for consumption outside the area for which TVA may be a source of power supply in accordance with the TVA Act. Proper completion of the specifications for Long-Term Firm Point-To-Point Transmission Service and NERC Tags shall constitute satisfaction of the certification requirement.

TVA shall not be obligated to supply power and energy from its own sources or from its purchases from other neighboring systems during interruptions or curtailments in the delivery to TVA of power and energy for Transmission Service hereunder, and nothing in this Service Agreement or in the Transmission Customer's agreements with others shall have the effect of making, nor shall anything in the Service Agreement or said agreements

with others be construed to require TVA to take any action which would make TVA, directly or indirectly, a source of power supply to the Transmission Customer, to any Delivering Party or Receiving Party, or to any ultimate recipient.

- 8.0 Any notice or request made to or by either Party regarding this Service Agreement shall be made to the representative of the other Party as indicated below. The designation of the person to be so notified or the address of such person may be changed at any time and from time to time by either Party by similar notice.

TVA:
Transmission System Services
Tennessee Valley Authority
1101 Market Street, PCC 2A
Chattanooga, Tennessee 37402-2801

Transmission Customer:

- 9.0 Invoices for Transmission Service will be submitted to the Transmission Customer by e-mail link to a secure electronic website, U.S. mail, or facsimile. The Transmission Customer's billing address, facsimile number, and e-mail address are indicated below. The Transmission Customer may modify the information specified below by written notice to TVA in accordance with Section 8.

- 10.0 The Guidelines, as such Guidelines now exist or may hereafter be modified, are incorporated herein and made a part hereof. In the event of any conflict between this Service Agreement and the Guidelines, the Guidelines shall control.
- 11.0 Any waiver at any time by either Party of its rights with respect to any default of the other Party or with respect to any other matter arising in connection with this Service Agreement shall not be considered a waiver with respect to any other default or matter.
- 12.0 The validity, interpretation, and performance of this Service Agreement shall be governed by applicable Federal law.
- 13.0 This Service Agreement shall not be construed to create rights in, or to grant remedies to, or delegate any duty, obligation, or undertaking established herein to any third party as a beneficiary to this Service Agreement.
- 14.0 This Service Agreement, including the Guidelines, together with the Specifications for Long-Term Firm Point-To-Point Transmission Service and any NERC Tags shall constitute the entire understanding between TVA and the Transmission Customer with respect to Transmission Service hereunder.

- 15.0 The applicable provisions of this Service Agreement will continue in effect after termination of the Service Agreement to the extent necessary to provide for final billing, billing adjustments and payments, and with respect to liability and indemnification from acts or events that occurred while this Service Agreement was in effect.

- 16.0 Unless TVA subsequently determines that sufficient transmission capacity is available, if the Transmission Customer later desires to have this service continued for subsequent years, rollover rights are not available in the future for this service. In accordance with the TVA Act, and the Guidelines, TVA offers Transmission Service only to the extent it has transmission capacity available that TVA has determined to be in excess of its needs to use the TVA Transmission System to carry out its statutory responsibilities to provide an ample supply of power to the TVA area at the lowest feasible cost. TVA does not at this time offer to extend this Transmission Service beyond the term specified.

IN WITNESS WHEREOF, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

TVA:

By: _____
Name: _____
Title: _____

Date: _____

Transmission Customer:

By: _____
Name: _____
Title: _____

Date: _____

Specifications for Long-Term Firm Point-To-Point Transmission Service

- 1.0 Term of Transaction: _____
Start Date: _____
Termination Date: _____

- 2.0 Description of the supply characteristics of the capacity and energy to be transmitted by TVA including the electric Control Area in which the transaction originates:

- 3.0 Point(s) of Receipt: _____
Delivering Party: _____
Capacity Reservation: _____

- 4.0 Point(s) of Delivery: _____
Receiving Party: _____
Capacity Reservation: _____

- 5.0 Maximum amount of capacity and energy to be transmitted (Reserved Capacity):

- 6.0 Designation of Party(ies) subject to reciprocal service obligation:

- 7.0 Name(s) of any Intervening Systems providing Transmission Service:

- 8.0 Party responsible for providing Real Power Losses:

- 9.0 (Confidential) Location of generating facilities:

- 10.0 (Confidential) Location of the ultimate load:

- 11.0 If Transmission Service is provided in accordance with Section 15.3(B) or 15.3(C) of the Guidelines, the following shall apply:

12.0 Service under this agreement may be subject to some combination of the charges detailed below. (The appropriate charges for individual transactions will be determined in accordance with the terms and conditions of the Guidelines.)

12.1 Transmission Charge: _____

12.2 Redispatch Charges: _____

12.3 Network Upgrade Charges: _____

12.4 Direct Assignment Facilities Charge: _____

12.5 Charges for Other Transmission System Modifications: _____

12.6 Ancillary Services Charges: _____

II. Service Agreement for Short-Term Firm Point-To-Point Transmission Service

- 1.0 This Service Agreement, dated and effective as of _____, is entered into, by and between the Tennessee Valley Authority ("TVA") and _____ ("Transmission Customer").
- 2.0 The Transmission Customer has been determined by TVA to have a Completed Application for Short-Term Firm Point-To-Point Transmission Service under TVA's Transmission Service Guidelines ("Guidelines").
- 3.0 Service under this Service Agreement shall be provided by TVA upon request by an authorized representative of the Transmission Customer. A Transmission Service reservation request will be submitted for each request for Short-Term Firm Point-To-Point Transmission Service.
- 4.0 The Transmission Customer agrees to supply such information TVA deems reasonably necessary in accordance with Good Utility Practice in order for it to provide the requested service.
- 5.0 TVA agrees to provide and the Transmission Customer agrees to take and pay for Short-Term Firm Point-To-Point Transmission Service in accordance with the provisions of Parts I and II of the Guidelines and this Service Agreement.
- 6.0 Schedules (using NERC Tags) for Short-Term Firm Point-To Point Transmission Service shall be furnished by the Transmission Customer to TVA in advance in accordance with the Guidelines.
- 7.0 TVA shall not be required to provide Transmission Service hereunder for the Transmission Customer for power and energy it does not own or otherwise have title to. Pursuant to the Energy Policy Act of 1992, TVA shall also not be required to provide Transmission Service hereunder to transmit electric energy for consumption within the area for which TVA may be a source of power supply in accordance with the Tennessee Valley Authority Act of 1933, as amended ("TVA Act"). In this regard, the Transmission Customer shall provide, at TVA's request (a) satisfactory evidence that the Transmission Customer owns or otherwise has title to the power and energy for which it requests Transmission Service and (b) adequate certification in writing that the power and energy for which it requests Transmission Service is for consumption outside the area for which TVA may be a source of power supply in accordance with the TVA Act. Proper completion of Transmission Service reservation and scheduling requests shall constitute satisfaction of the certification requirement.

TVA shall not be obligated to supply power and energy from its own sources or from its purchases from other neighboring systems during interruptions or curtailments in the delivery to TVA of power and energy for Transmission Service hereunder, and nothing in this Service Agreement or in the Transmission Customer's agreements with others shall have the effect of making, nor shall anything in the Service Agreement or said agreements with others be construed to require TVA to take any action which would make TVA, directly or indirectly, a source of power supply to the Transmission Customer, to any Delivering Party or Receiving Party, or to any ultimate recipient.
- 8.0 Any notice or request made to or by either Party regarding this Service Agreement shall be made to the representative of the other Party as indicated below. The designation of the

person to be so notified or the address of such person may be changed at any time and from time to time by either Party by similar notice.

TVA:
Transmission System Services
Tennessee Valley Authority
1101 Market Street, PCC 2A
Chattanooga, Tennessee 37402-2801

Transmission Customer:

- 9.0 Invoices for Transmission Service will be submitted to the Transmission Customer by e-mail link to a secure electronic website, U.S. mail, or facsimile. The Transmission Customer's billing address, facsimile number, and e-mail address are indicated below. The Transmission Customer may modify the information specified below by written notice to TVA in accordance with Section 8.

- 10.0 The Guidelines, as such Guidelines now exist or may hereafter be modified, are incorporated herein and made a part hereof. In the event of any conflict between this Service Agreement and the Guidelines, the Guidelines shall control.
- 11.0 Any waiver at any time by either Party of its rights with respect to any default of the other Party or with respect to any other matter arising in connection with this Service Agreement shall not be considered a waiver with respect to any other default or matter.
- 12.0 The validity, interpretation, and performance of this Service Agreement shall be governed by applicable Federal law.
- 13.0 This Service Agreement shall not be construed to create rights in, or to grant remedies to, or delegate any duty, obligation, or undertaking established herein to any third party as a beneficiary to this Service Agreement.
- 14.0 This Service Agreement, including the Guidelines, together with any completed Transmission Service reservation and scheduling requests shall constitute the entire understanding between TVA and the Transmission Customer with respect to Transmission Service hereunder.
- 15.0 This Service Agreement shall become effective as of the date first above written and shall continue in effect until terminated by either Party upon at least 90 days' prior written notice to the other, provided, however, the Service Agreement should not terminate before completion of reserved and/or scheduled Transmission Service under this Service Agreement.

16.0 The applicable provisions of this Service Agreement will continue in effect after termination of the Service Agreement to the extent necessary to provide for final billing, billing adjustments and payments, and with respect to liability and indemnification from acts or events that occurred while this Service Agreement was in effect.

IN WITNESS WHEREOF, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

TVA:

By: _____ Date: _____
Name: _____
Title: _____

Transmission Customer:

By: _____ Date: _____
Name: _____
Title: _____

ATTACHMENT A-1**Form of Consent to Assignment**

- 1.0 This Consent to Assignment, dated and effective as of _____, is entered into, by and among the Tennessee Valley Authority ("TVA"), _____ ("Reseller"), and _____ ("Assignee").
- 2.0 Reseller, by separate agreement between Reseller and Assignee, is assigning to Assignee Transmission Service obtained by Reseller under TVA's Transmission Service Guidelines (Guidelines), as specified in this Agreement or any required OASIS posting; provided that the assignment, including compensation, is subject to the provisions of the Guidelines.
- 3.0 TVA hereby consents to such assignment under the terms and conditions specified in this Agreement.
- 4.0 Prior to the commencement of the Transmission Service, Assignee has been determined by TVA to be an Eligible Customer that has taken assignment of or entered into the applicable Service Agreement under which the assigned Transmission Service will be taken by Assignee.
- 5.0 As provided in the Guidelines and TVA's Business Practices, the assignment of Transmission Service must be conducted through or otherwise posted on TVA's OASIS on or before the date the assigned Transmission Service is to commence.
- 6.0 For the assigned Transmission Service, TVA shall charge the Reseller, as appropriate, at the rate stated in the Reseller's original Service Agreement with TVA or the applicable rate posted on OASIS, and the Reseller shall be responsible under its separate agreement with the Assignee to collect its compensation for the assignment of Transmission Service.
- 7.0 Notwithstanding any dispute Reseller and Assignee may have under such assignment, TVA shall be paid for the assigned Transmission Service as such amounts are due and payable under the Reseller's Service Agreement with TVA. Failure to pay such amounts when due shall result in suspension of and thereafter possible termination of Transmission Service in accordance with the Guidelines. Both Reseller and Assignee will be notified prior to suspension or termination of Transmission Service under the provisions of their Service Agreements.
- 8.0 The assigned Transmission Service shall be the same as the Reseller's original Service Agreement (Points of Receipt, Points of Delivery, service priority) unless Assignee requests a change in service that is available under the Guidelines, in which case such change must be obtained by Assignee in accordance with the provisions of the Guidelines.
- 9.0 The specific affected Service Agreements covering Transmission Service that is assigned are indicated in the Attachment to this Agreement.
- 10.0 The Guidelines, as such Guidelines now exist or may hereafter be modified, are incorporated herein and made a part hereof. In the event of any conflict between this Agreement and the Guidelines, the Guidelines shall control.

- 11.0 Any waiver at any time by any Party of its rights with respect to any default of any other Party or with respect to any other matter arising in connection with this Agreement shall not be considered a waiver with respect to any other default or matter.
- 12.0 The validity, interpretation, and performance of this Agreement shall be governed by applicable Federal law.
- 13.0 This Agreement is effective as of the date first above written and shall continue in effect for the term of the assigned Transmission Service.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their respective authorized officials.

TVA:

By: _____
Name: _____
Title: _____

Date: _____

Reseller:

By: _____
Name: _____
Title: _____

Date: _____

Assignee:

By: _____
Name: _____
Title: _____

Date: _____

Attachment to Consent to Assignment

Point-to-Point Transmission Service

Reseller: _____

Contract Title: _____

Contract Number: _____

Assignee: _____

Contract Title: _____

Contract Number: _____

ATTACHMENT B**Service Agreement for Non-Firm Point-To-Point Transmission Service**

- 1.0 This Service Agreement, dated and effective as of _____, is entered into, by and between the Tennessee Valley Authority ("TVA") and _____ ("Transmission Customer").
- 2.0 The Transmission Customer has been determined by TVA to have a Completed Application for Non-Firm Point-To-Point Transmission Service under TVA's Transmission Service Guidelines ("Guidelines").
- 3.0 Service under this Service Agreement shall be provided by TVA upon request by an authorized representative of the Transmission Customer. A Transmission Service reservation request will be submitted for each request for Non-Firm Point-To-Point Transmission Service.
- 4.0 The Transmission Customer agrees to supply such information TVA deems reasonably necessary in accordance with Good Utility Practice in order for it to provide the requested service.
- 5.0 TVA agrees to provide and the Transmission Customer agrees to take and pay for Non-Firm Point-To-Point Transmission Service in accordance with the provisions of Parts I and II of the Guidelines and this Service Agreement, including any reservations and NERC Tags.
- 6.0 Schedules (using NERC Tags) for Non-Firm Point-To Point Transmission Service shall be furnished by the Transmission Customer to TVA in advance in accordance with the Guidelines.
- 7.0 TVA shall not be required to provide Transmission Service hereunder for the Transmission Customer for power and energy it does not own or otherwise have title to. Pursuant to the Energy Policy Act of 1992, TVA shall also not be required to provide Transmission Service hereunder to transmit electric energy for consumption within the area for which TVA may be a source of power supply in accordance with the Tennessee Valley Authority Act of 1933, as amended ("TVA Act"). In this regard, the Transmission Customer shall provide, at TVA's request (a) satisfactory evidence that the Transmission Customer owns or otherwise has title to the power and energy for which it requests Transmission Service and (b) adequate certification in writing that the power and energy for which it requests Transmission Service is for consumption outside the area for which TVA may be a source of power supply in accordance with the TVA Act. Proper completion of Transmission Service reservation and scheduling requests shall constitute satisfaction of the certification requirement.

TVA shall not be obligated to supply power and energy from its own sources or from its purchases from other neighboring systems during interruptions or curtailments in the delivery to TVA of power and energy for Transmission Service hereunder, and nothing in this Service Agreement or in the Transmission Customer's agreements with others shall have the effect of making, nor shall anything in the Service Agreement or said agreements with others be construed to require TVA to take any action which would make TVA, directly or indirectly, a source of power supply to the Transmission Customer, to any Delivering Party or Receiving Party, or to any ultimate recipient.

8.0 Any notice or request made to or by either Party regarding this Service Agreement shall be made to the representative of the other Party as indicated below. The designation of the person to be so notified or the address of such person may be changed at any time and from time to time by either Party by similar notice.

TVA:
Transmission System Services
Tennessee Valley Authority
1101 Market Street, PCC 2A
Chattanooga, Tennessee 37402-2801

Transmission Customer:

9.0 Invoices for Transmission Service will be submitted to the Transmission Customer by e-mail link to a secure electronic website, U.S. mail, or facsimile. The Transmission Customer's billing address, facsimile number, and e-mail address are indicated below. The Transmission Customer may modify the information specified below by written notice to TVA in accordance with Section 8.

10.0 The Guidelines, as such Guidelines now exist or may hereafter be modified, are incorporated herein and made a part hereof. In the event of any conflict between this Service Agreement and the Guidelines, the Guidelines shall control.

11.0 Any waiver at any time by either Party of its rights with respect to any default of the other Party or with respect to any other matter arising in connection with this Service Agreement shall not be considered a waiver with respect to any other default or matter.

12.0 The validity, interpretation, and performance of this Service Agreement shall be governed by applicable Federal law.

13.0 This Service Agreement shall not be construed to create rights in, or to grant remedies to, or delegate any duty, obligation, or undertaking established herein to any third party as a beneficiary to this Service Agreement.

14.0 This Service Agreement, including the Guidelines, together with any completed Transmission Service reservation and scheduling requests shall constitute the entire understanding between TVA and the Transmission Customer with respect to Transmission Service hereunder.

15.0 This Service Agreement shall become effective as of the date first above written and shall continue in effect until terminated by either Party upon at least 90 days' prior written notice

to the other, provided, however, the Service Agreement should not terminate before completion of reserved and/or scheduled Transmission Service under this Service Agreement.

- 16.0 The applicable provisions of this Service Agreement will continue in effect after termination of the Service Agreement to the extent necessary to provide for final billing, billing adjustments and payments, and with respect to liability and indemnification from acts or events that occurred while this Service Agreement was in effect.

IN WITNESS WHEREOF, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

TVA:

By: _____
Name: _____
Title: _____

Date: _____

Transmission Customer:

By: _____
Name: _____
Title: _____

Date: _____

ATTACHMENT C

Methodology to Assess Available Transfer Capability

1.0 Purpose

This document describes the methodology used in the calculation of Available Transfer Capability.

2.0 Scope

TVA has chosen to use the Flowgate Methodology for calculating Available Transfer Capability (ATC) and Available Flowgate Capability (AFC) for each ATC Path for the time horizons of next hour to 13 months (Short Term Horizon). For time periods greater than 13 months (Long Term Horizon), TVA will conduct a full N-1 load flow analysis on the request. The rest of this document pertains to the calculations of ATC for the Short Term Horizon.

3.0 Definitions

3.2.1 Available Flowgate Capacity (AFC)

A measure of the flow capability remaining on a Flowgate for further commercial activity over and above already committed uses.

3.2.2 Available Transfer Capability (ATC)

A measure of the transfer capability remaining in the physical transmission network for further commercial activity over and above already committed uses.

3.2.3 ATC Path

Any combination of Point of Receipt and Point of Delivery for which ATC is calculated, as well as any Posted Path.

3.2.4 Capacity Benefit Margin (CBM)

The amount of firm transmission transfer capability preserved by TVA for Load-Serving Entities (LSEs), whose loads are located on TVA's system, to enable access by the LSEs to generation from interconnected systems to meet generation reliability requirements. Preservation of CBM for an LSE allows that entity to reduce its installed generation capacity below that which may otherwise have been necessary without interconnections to meet its generation reliability requirements. The transmission transfer capability preserved as CMB is intended to be used by the LSE only in times of emergency generation deficiencies.

3.2.5 Contract Path

An agreed upon electrical path for the continuous flow of electrical power between the parties of an Interchange Transaction. This is usually defined as the sum of the tie line ratings or limiting series elements between the two entities.

3.2.6 Existing Transmission Commitments (ETC)

Committed uses of TVA's transmission system considered when determining AFC.

3.2.7 Flowgate

A mathematical construct, comprised of one or more monitored transmission facilities and optionally one or more contingency facilities, used to analyze the impact of power flows upon the Bulk Electric System.

3.2.8 Independent Power Producer (IPP)

Any entity that owns or operates an electricity generating facility that is not included in an electric utility's rate base. This term includes, but is not limited to, co-generators and small power producers and all other nonutility electricity producers, such as exempt wholesale generators, who sell electricity.

3.2.9 Operating Procedure

A document that identifies specific steps or tasks that should be taken by one or more specific operating positions to achieve specific operating goals. The steps in an Operating Procedure should be followed in the order in which they are presented, and should be performed by the positions identified.

3.2.10 Outage Transfer Distribution Factor (OTDF)

The percentage of a power transfer that flows through the monitored element of a Flowgate for a particular transfer when the contingency element of the Flowgate is out of service.

3.2.11 Power Transfer Distribution Factor (PTDF)

The percentage of power transfer that flows through a Flowgate for a particular transfer when there are no contingencies.

3.2.12 Point of Receipt (POR)

A location that the Transmission Service Provider specifies on its transmission system where an Interchange Transaction enters or a Generator delivers its output.

3.2.13 Point of Delivery (POD)

A location that the Transmission Service Provider specifies on its transmission system where an Interchange Transaction leaves or a LSE receives its energy.

3.2.14 TVA Reliability Coordination Area

The collection of generation, transmission, and load that operate within the boundaries of the Balancing Authority Areas for which TVA provides Reliability Coordination services.

3.2.15 Transfer Distribution Factor (TDF)

TDF is a general term, which may refer to either PTDF or OTDF. The TDF is the percentage of power transferred from source to sink that flows through a Flowgate.

3.2.16 Transmission Reliability Margin (TRM)

The amount of transmission transfer capability necessary to provide reasonable assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and the need for operating flexibility to ensure reliable system operation as conditions change.

3.2.17 Transmission Service

Services provided to the transmission customer by TVA to move energy from a Point of Receipt to a Point of Delivery.

3.2.18 Transmission Service Provider (TSP)

The entity, such as TVA, that administers the Transmission Service Guidelines or transmission tariff and provides Transmission Service to customers under applicable transmission service agreements.

4.0 Overview

The Flowgate Methodology is based on the assumption that certain elements on the transmission system will begin to reach their limits before the other elements on the system. Therefore by monitoring the more sensitive areas on the transmission systems, transfer capability calculations can be simplified in regard to the number of contingencies and monitored elements examined during each study. This allows for a greater number of studies to be conducted with less simplified input assumptions. The result is more accurate studies that focus on how the power would actually flow if the Transmission Service Requests were to be approved.

5.0 Flowgates

5.1 Flowgate Attributes

A Flowgate is a selected power transmission element or group of elements that act as a proxy for the power transmission system capability and represent potential thermal, voltage, stability and/or contractual system limits to power transfer. There are two types of Flowgates:

OTDF Flowgate: Composed of usually two power transmission elements in which the loss of one (contingency element) significantly increases the loading on the other transmission element (monitored element).

PTDF Flowgate: Composed of one or more power transmission elements in which the total pre-contingency flow over the Flowgate cannot exceed a predetermined limit.

Once limiting elements have been identified as potential transfer constraints, they can be grouped with their related contingencies and identified as unique Flowgates. The rating of the Flowgate is called the Total Flowgate Capacity (TFC) of the Flowgate and is monitored and used for evaluation of all viable transfers for commerce. The TFC values used in the AFC process are consistent with those used for planning purposes.

5.2 Flowgate Identification

Flowgates are chosen to be included in the transfer capability calculation process using the following methods.

1. The Flowgate is requested to be added to the transfer capability calculation process by the Reliability Coordinator, Transmission Operator, or Transmission Owner of the area for which transfer capability is being calculated.
2. A transmission element is identified as a System Operating Limit (SOL) with a limiting value that is lower than the thermal rating or a transmission element is identified as an Interconnection Reliability Operating Limit (IROL).
3. The TSP is notified of a non-thermal SOL or any IROL in a neighboring BA.
4. The Flowgate has been identified as a Reciprocally Coordinated Flowgate by passing the coordinated Flowgate test in the Congestion Management Process (CMP).

5.3 Total Flowgate Capability

The TFC of each Flowgate is equal to the SOL or IROL of that Flowgate if the SOL or IROL is based on a thermal limit. For a voltage or stability limit the TFC is equal to the flow limit that will respect the SOL or IROL.

There are four different TFCs for each Flowgate, (one used for each season). The TFC used in the ATC calculation must match the seasonal capacity being calculated.

In instances where there is a difference in derived limits, such as a tie line, the most limiting parameter is used as TFC.

TFCs will be updated at least once per calendar year. If notified of a change in the facility rating by the Transmission Owner that would affect the TFC of a Flowgate used in the AFC process, the TFC will be updated within seven calendar days of the notification.

6.0 Available Transfer Capability (ATC) Calculations

6.1 Firm Available Flowgate Capability (AFC) Calculations

In accordance with NERC's MOD-030-02 reliability standard, the following equation is used when calculating Firm AFC for a Flowgate for a specified period:

$$AFC_F = TFC - ETC_{Fi} - CBM_i - TRM_i + Postbacks_{Fi} + Counterflows_{Fi}$$

Where:

AFC_F is the firm Available Flowgate Capability for the Flowgate for that period

TFC is the Total Flowgate Capability of the Flowgate

ETC_{Fi} is the sum of the impacts of existing firm Transmission commitments for the Flowgate during that period

CBM_i is the impact of the Capacity Benefit Margin on the Flowgate during that period

TRM_i is the impact of the Transmission Reliability Margin on the Flowgate during that period

Postbacks_{Fi} are changes to firm AFC due to a change in the use of Transmission Service for that period

Counterflows_{Fi} are adjustments to firm AFC due to power flows in the opposite direction of the Flowgate

6.2 Non-Firm Available Flowgate Capability (AFC) Calculations

In accordance with NERC's MOD-030-02 reliability standard, the following equation is used in calculating Non-Firm AFC:

$$AFC_{NF} = TFC - ETC_{Fi} - ETC_{NFi} - CBM_{Si} - TRM_{Ui} + Postbacks_{NFi} + Counterflows_{NFi}$$

Where:

AFC_{NF} is the non-firm Available Flowgate Capability for the Flowgate for that period

TFC is the Total Flowgate Capability of the Flowgate

ETC_{Fi} is the sum of the impacts of existing firm Transmission commitments for the Flowgate during that period.

ETC_{NFi} is the sum of the impacts of existing non-firm Transmission commitments for the Flowgate during that period

CBM_{Si} is the impact of any Capacity Benefit Margin schedules on the Flowgate during that period

TRM_{Ui} is the impact of the unreleased Transmission Reliability Margin on the Flowgate during that period

Postbacks_{NFi} are changes to firm AFC due to a change in the use of Transmission Service for that period

Counterflows_{NFi} are adjustments to firm AFC due to power flows in the opposite direction of the Flowgate

TVA uses an intermediate step when calculating AFC called AFC initial (AFC_{Init}). This step does not mathematically change the equations, only the order in which they are calculated. This allows for the exchange of AFC_{Init} values with other AFC calculators that share the task of calculating transfer capability for E.ON and AECI and also allows the use of two engines in the process, the TARA AMB engine and the PAAC engine. The current process calculates AFCs the following way:

$$TFC - ETC_{GentLoad} = AFC_{Init}$$

$$Transmission\ Impacts = ETC_{Reservations} + CBM - Postbacks - Counterflow$$

$$AFC_{Init} - Transmission\ Impacts - TRM = AFC_{Final}$$

To prove the equations are the same, substitution can be used and the equations can be written as:

$$AFC_{Final} = AFC_{init} - \text{Transmission Impacts} - TRM$$

$$AFC_{Final} = TFC - ETC_{GentoLoad} - ETC_{Reservations} - CBM + \text{Postbacks} + \text{Counterflow}$$

$$AFC_{Final} = TFC - (ETC_{GentoLoad} + ETC_{Reservations}) - CBM + \text{Postbacks} + \text{Counterflow}$$

$$AFC_{Final} = TFC - ETC - CBM - TRM + \text{Postbacks} + \text{Counterflows}$$

6.3 Existing Transmission Commitments (ETC)

All of the calculated forward flow impact is considered in the AFC calculations as ETC. There is no cut-off used for forward flow impacts. Partial path reservations are included in the calculation of ETC.

6.3.1 ETC_{Fi}

ETC_{Fi} contains two major components, ETC_{Reservations} and ETC_{GentoLoad}

ETC_{GentoLoad} is calculated using the following:

1. The impacts of generation to load for the TSP's area. These values are calculated from:
 - a. Load forecast for the time period being calculated, and
 - b. Unit commitment and generation block dispatch, including all Designated Network Resources.
2. The impact of generation to load for other TSP areas covered by an executed coordination agreement or where the impact is deemed significant. These values are calculated from:
 - a. Load forecast for the time period being calculated, and
 - b. Unit commitment and block generation dispatch.
3. The impact of generation to load for all other TSP areas. These values are calculated from the seasonal peak load forecast included in the MMWG or NTSG models.

ETC_{Reservations} is calculated using the following:

1. The impact of Network Integration Transmission Service (NITS) for the areas of the TSP and any other TSP covered by an executed coordination agreement.
2. The impact of confirmed Point-to-Point (PTP) Transmission Service expected to be scheduled for the areas of the TSP and any TSP covered by an executed coordination agreement.
3. The impact of any grandfathered obligations expected to be scheduled or expected to flow for the areas of the TSP and any TSP covered by an executed coordination agreement.

6.3.2 ETC_{NFi}

ETC_{NFi} is calculated using the following:

1. The impact of all confirmed non-firm Point-to-Point (PTP) Transmission Service expected to be scheduled for the areas of the TSP and any TSP covered by an executed coordination agreement.

2. The impact of any grandfathered non-firm obligations expected to be scheduled or expected to flow for the areas of the TSP and any TSP covered by an executed coordination agreement.
3. The impact of non-firm NITS (secondary service) for the areas of the TSP and any TSP covered by an executed coordination agreement.

6.4 Counterflow Impact

When applying transmission reservation impacts in the opposite direction of flow on a Flowgate in the AFC calculations, the following counterflow assumptions are used:

Reservation Type	Counterflow Impact Used
Firm Reservations for Firm Calculations	30%
Firm Reservations for Non-Firm Calculations	50%
Non-Firm Reservations for Non-Firm Calculations	50%

These counterflow assumptions are based on operator experience and reasonable engineering judgment.

6.5 Transmission Service Request Rollover Impact

Transmission Service Requests (TSRs) that have met the requirements for rolling over service, and have been determined to have a likelihood of rolling over, are considered at impact in the $ETC_{Reservation}$ calculations for the time periods when the rollover would occur.

6.6 AFC Calculation Frequency

New transmission models are created and AFC_{init} values are calculated on the following frequencies:

Horizon	Calculation Frequency
Hourly, Hours 1-48	Every hour
Hourly, Hours 48-192	Four times per day
Daily, Days 1-35	Four times per day
Monthly, Months 1-18	Once per day

AFC_{Final} values are calculated every 15 minutes.

6.7 Converting AFCs to ATC

When converting Flowgate AFCs to ATCs on an ATC Path, the following algorithm is used:

$$ATC = \text{Minimum of } (AFC_{Flowgate\ n} / TDF_{Flowgate\ n})$$

The TDF used in the calculation must be greater than the cut-off. The current cut-off used for calculating transfer capability is 3% for OTDF Flowgates and 5% for PTDF Flowgates. An impact of less than the cut-off is considered no impact when calculating ATC.

The posted ATC is the minimum of the calculated ATC and the Contract Path minus the reservations sold across that path.

6.8 Simultaneous Path Interactions

The Flowgate Methodology allows for ATCs to be calculated on transmissions paths that consider the interaction of reservations requested or granted on other ATC paths. TVA accounts for these simultaneous path interactions in its transfer capability calculations.

6.9 ATC Calculations Intervals and Posting Intervals

ATC values are calculated and posted to OASIS on the following intervals:

ATC Value	Calculation Period	Calculation Frequency
Hourly	Next 192 hours	Every 15 minutes
Daily	Next 35 days	Every 15 minutes
Monthly	Next 18 months	Every 15 minutes

6.10 Total Transfer Capability (TTC)

TVA considers Total Transfer Capability (TTC) the maximum amount of power that is allowed to reliably flow across an interface before transmission impacts such as $ETC_{Reservations}$, TRM, CBM, postbacks and counterflows are considered. TTC is therefore normally the Contract Path amount for the interface. On the interfaces that have very large Contract Paths, such that the Contract Path is above the amount the system could reliability transfer, the TTC is set to a more appropriate transfer limit based on reasoned engineering analysis.

7.0 Source and Sink Definitions

7.1 Source Definitions

If the TSR or approved Transmission Service is sourced in an area, then the sources used in evaluating the TSR or the impacts of approved Transmission Service are obtained from the POR field in the TSR.

If the TSR or approved Transmission Service is sourced in an IPP within TVA's area, then the sources used in evaluating the TSR or the impacts of approved Transmission Service are obtained from the Source field of the TSR.

If the TSR or approved Transmission Service is sourced in an IPP outside TVA's area, the sources used in evaluating the TSR or the impacts of the approved Transmission Service are obtained from either the Source field or the POR field of the TSR.

7.2 Sink Definitions

If the TSR or approved Transmission Service is sunk in an area, then the sinks used in evaluating the TSR or the impacts of the approved Transmission Service are obtained from the POD field in the TSR.

If the TSR or approved Transmission Service is sunk in an IPP within TVA's area, then the sinks used in evaluating the TSR or the impacts of approved Transmission Service are obtained from the Sink field of the TSR.

If the TSR or approved Transmission Service is sunk in an IPP outside TVA's area, the sinks used in evaluating the TSR or the impacts of the approved Transmission Service are obtained from either the Sink field or the POD field of the TSR.

7.3 Model Mapping

When the POR field is used as the source, it is mapped to the online generators within the area, such that all online generation is dispatched based on distributions factors calculated as:
 $(P_{Max} - P_{Gen}) / Total\ Gen.$

When the POD field is used as the sink, it is mapped to the online generators within the area, such that all online generation is dispatched based on distribution factors calculated as:
 $(P_{Gen} - P_{Min}) / Total\ Gen.$

When the source field is used as the source, it is mapped to all the units of the generator.

When the sink field is used as the sink, it is mapped to all of the bus loads that make up the requested sink.

8.0 Load Flow Model Development

The Automated Model Builder (AMB) generates transmission models that simulate anticipated system conditions for the different horizons needed to adequately calculate transmission service capability. These models are derived from the NERC MMWG models, the SERC LTSG models and the SERC NTSG models. The starting models are chosen based on the most recently updated case available.

The transmission models contain the system topology and generation data for the Eastern Interconnection. The generation Facility Ratings, i.e. generation maximum and minimum output levels, are also included in the transmission models.

The AMB modifies the starting cases to reflect anticipated system conditions such as load forecasts, transmission and generation outages or derates, and (in some horizons) approved tags. TVA uses the NERC SDX and the NERC Tag Dump as the basis for this information. The conforming loads within the TSP area, including interruptible loads, will be scaled based on the projected load forecast for that area. Interruptible loads are included since they are considered in the transmission planning process.

Generators that are identified as Designated Network Resources in the TSP's area are modeled in the basecase and are dispatched based on block generation. In some horizons, when the data is available, a direct dispatch based on projected individual generation dispatches is used.

The following assumptions are used, based on reservation class and time period:

Model Horizon	Assumptions
Monthly Firm and Non-Firm Months 1-18	Load will be scaled to the peak for the given month. All outages based on a representative day (3rd Wednesday) will be included.
Daily Firm and Non-Firm Day 1-35	Load will be scaled to the peak for the given day. All outages for the given day will be included.
Hourly Non-Firm Hours 49-192	Load will be scaled to the hourly value supplied to SDX. All outages for the given hour from SDX will be included.

Hourly Non-Firm Reservation Horizon Hours ~30-48	Load will be scaled to the hourly value supplied to SDX. All outages for the given hour from SDX will be included.
Hourly Non-Firm Scheduling Horizon* Hours 1~30	Load will be scaled to the hourly value supplied to SDX. All outages for the given hour from SDX will be included. Approved tags from the NERC Tag Dump files will be filtered to remove double-counting and modeled in the cases.

*The length of the scheduling horizon changes based on the time of the calculations.

Outages that are in effect for part of the day are assumed to last the whole day when considering a daily outage in the AMB. Outages that are in effect for part of a month are only considered if they occur on the representative day of the month. This representative day is the third Wednesday of the month being built. Outages from other TSPs that cannot be mapped to the transmission model are not built into the cases by the AMB and are not considered in the AFC/ATC calculations.

Some TSPs external to TVA's area footprint will be modeled with expected outages and load forecasts, depending on the availability of data and the relevance of the external TSP to transfer capability calculations. Block generation dispatch for external TSPs will also be used, as availability allows.

9.0 Congestion Management Process and Allocation

The CMP facilitates better coordination between the non-market and the market entities. A large part of this process involves honoring the available allocation called ASTFC (Available Share of Total Flowgate Capability) on certain Flowgates.

The amount of allocation on a Flowgate is based on the TFC of that Flowgate. The allocation is then split up between the reciprocal entities on that Flowgate, based on its historical impact on the Flowgate.

Each entity can grant Transmission Service, as long as they have sufficient ASTFC on that Flowgate. If they do not have sufficient ASTFC, they can either borrow or transfer it in order to grant the Transmission Service. If no ASTFC is available from any entity, then the service must be denied.

10.0 Coordination with other TSPs

The following data is coordinated with TSPs that are parties to a coordination agreement:

Data	Shared With	Interval
AFC Overrides	Other TSPs whose Flowgates pass the coordination test	Every hour
Transmission Reservations	Signed a coordination agreement	Every hour
Available Share of Total Flowgate Capability (ASTFC)	CMP members	Every hour
AAL File (allocation borrowing)	CMP members	Once a day
Allocation Overrides (BMS files)	CMP members	Once a day

The following data is coordinated through SDX and is available to anyone having access to SDX.

1. Load forecast,

2. Transmission outages, and
3. Generation outages/derates.

The AFC override values are used for external Flowgates when they are provided. If no AFC override value is provided, then the calculated AFC value is used for the external Flowgates. For other input data, if a file is not received, the last file received will be used when possible.

Flowgates that are owned by external entities that have been added to the Flowgate process through the Flowgate identification methodology will be honored in the AFC process for all TSR evaluations, except under the following circumstances:

1. The Flowgate's OTDF or PTDF is below the coordinated distribution factor cut-off.
2. The Flowgate owner is included as the source, sink, POR, or POD of the TSR. This exception is included with the understanding that the Flowgate owner will have the opportunity to evaluate and approve the TSR on its own system.

11.0 Transmission Service Request (TSR) Evaluation

TSRs are evaluated on the same interval that ATC is calculated, every 15 minutes. These requests are evaluated, respecting queue order, based on their impact on all Flowgates in the AFC process, such that the impact is greater than the cutoff of 3% for OTDF Flowgates and 5% for PTDF Flowgates. The requests are also checked against the amount of allocation available on the impacted Flowgates according to the CMP.

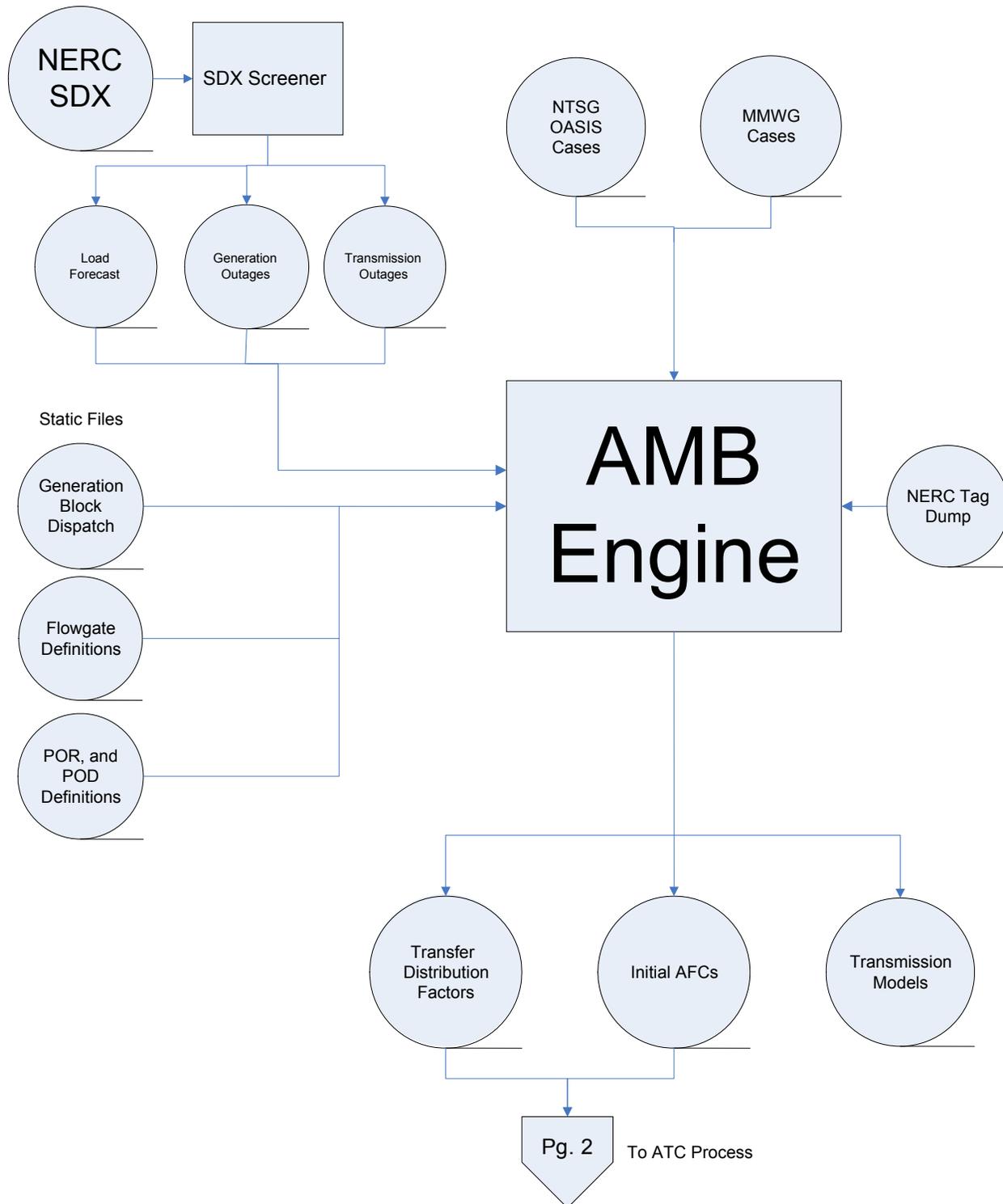
In order for a TSR to be granted it must pass the three following checks:

1. Is there enough AFC available on the affected Flowgate?
2. Is there sufficient ASTFC, including the borrowing of ASTFC, on the Reciprocal Coordinated Flowgates?
3. Is there enough capacity available on the Contract Path to grant the request?

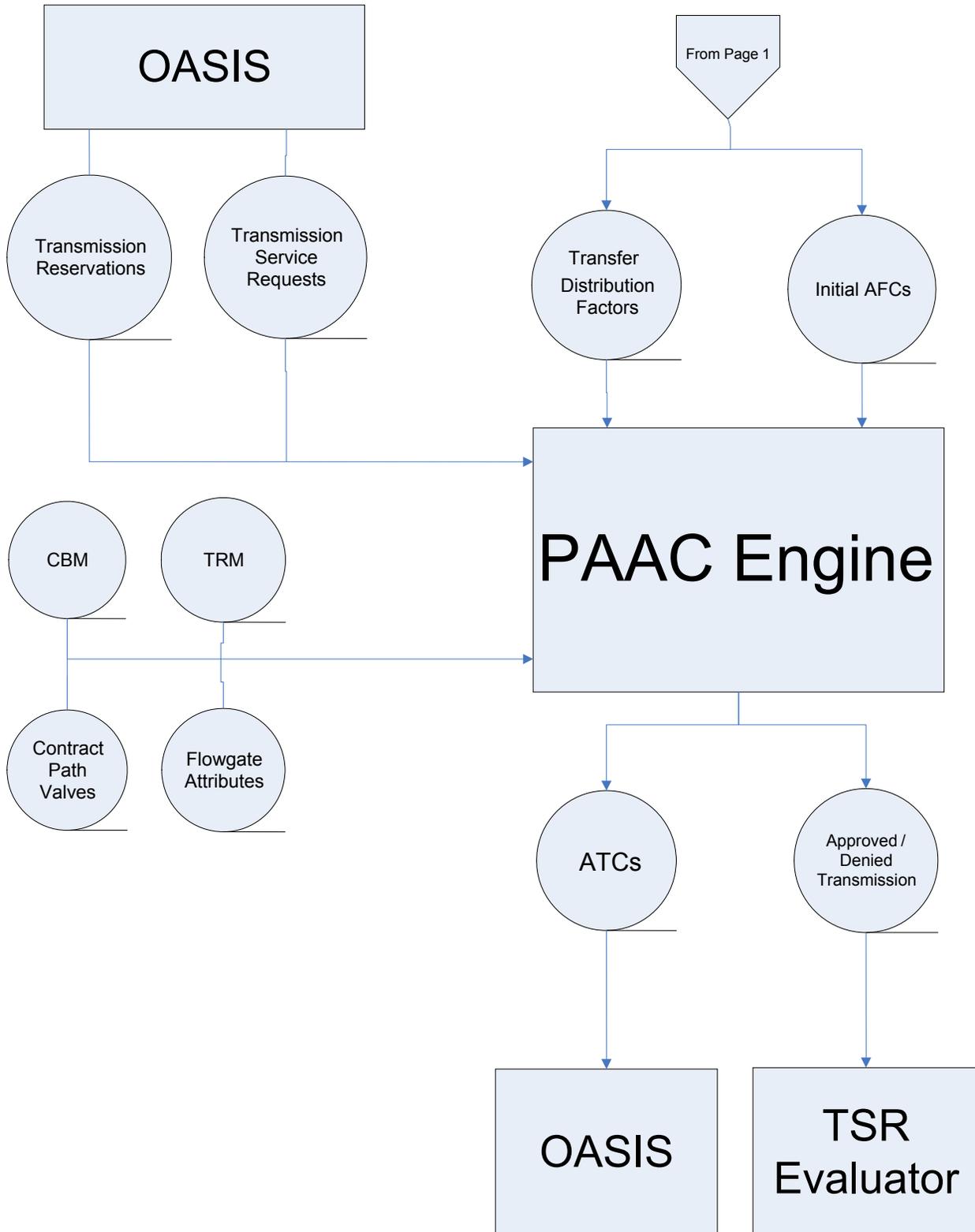
If the request fails one of the three checks, it is then evaluated for bumping opportunities. If bumping is not available, the request is marked failed and the TSR is denied.

12.0 Process Flow Diagrams

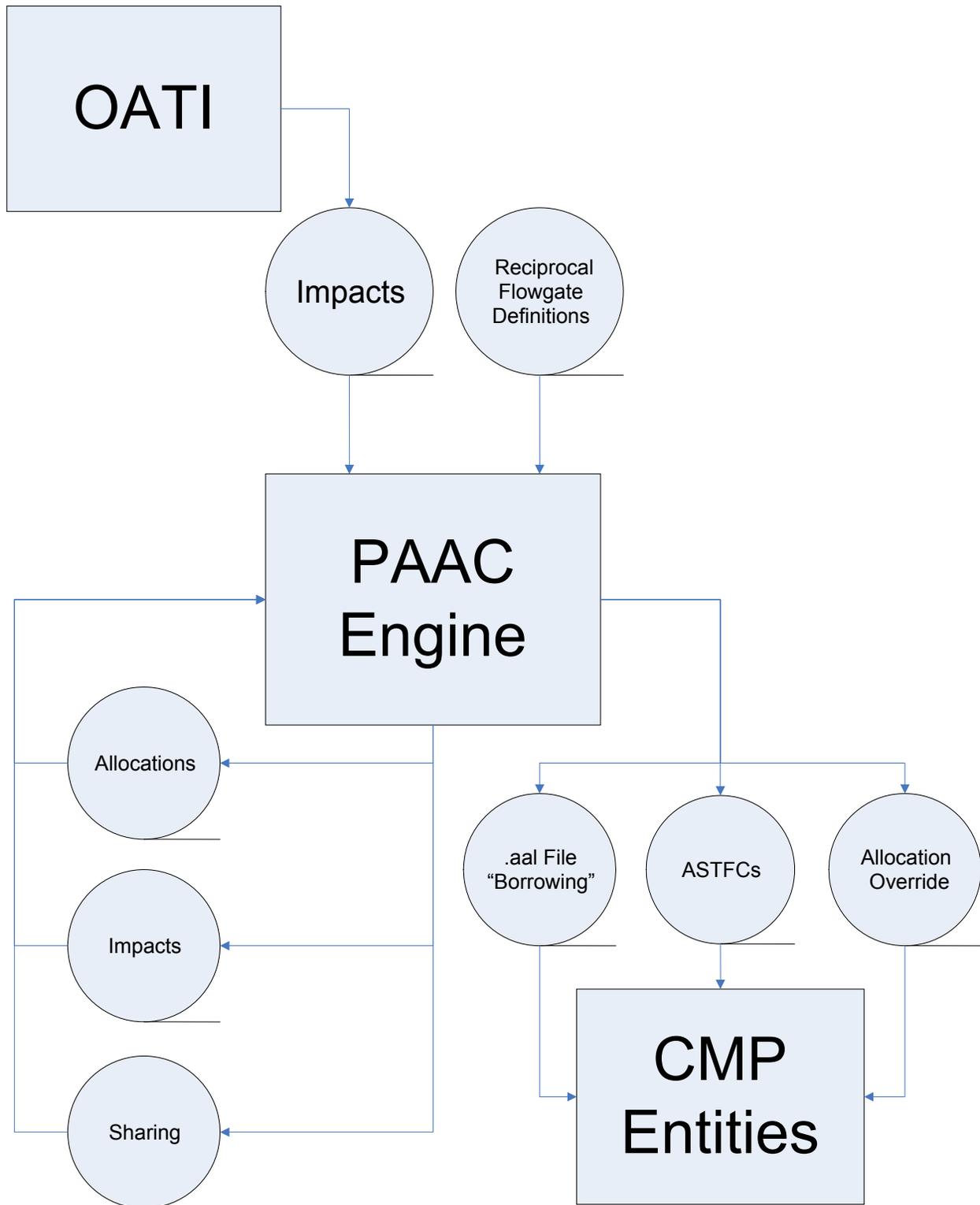
Model Building & AFC_{Init} Creation Process



ATC Process



Congestion Management Process



13.0 Transmission Reliability Margin (TRM)

The inherent uncertainty in the assumed system conditions used to compute ATC can result in unreliable transmission system operations. To ensure reliability under a broad range of system conditions, a portion of the computed ATC will be set aside. This capability, known as Transmission Reliability Margin (TRM), will provide the operating flexibility required to ensure reliable operations and will minimize the need to curtail Transmission Service.

13.1 TRM Methodology

Because the impact of power transfers on a transmission network is not limited to the reserved path, TVA does not define TRM by transmission paths. Instead, TRM is applied against the facility ratings of network components and is measured as a percentage or MW reduction of those ratings. This allows the application of TRM on every Flowgate or monitored element, instead of only being applied to the limiting elements of transfer paths. Network facility derating allows for more consistent application of TRM across different transmission paths.

The TRM will account for the following components of transmission system uncertainty:

1. Aggregate load forecast error,
2. Load distribution error,
3. Forecast uncertainty in transmission system topology,
4. Allowances for parallel path (loop flow) impacts,
5. Allowances for simultaneous path interactions,
6. Variations in generation dispatch,
7. Variations in facility loadings due to balancing of generation within a Balancing Authority area, and
8. Short-term system operator response (Operating Reserve actions not exceeding a 59-minute window).

An assessment of the impacts that these components have on the transmission system was made in order to determine the amount of TRM that is sufficient to maintain reliable system operations.

13.1.1 Aggregate Load Forecast

The inability to precisely predict a future load level and the subsequent loadings experienced on transmission system elements requires a reasonable quantity of transfer capability to remain uncommitted in the form of TRM.

The effect the load forecast error has on transmission capacity is determined using PTI MUST. An increase in load is simulated and the change in capability on lines preloaded to 50% or greater is measured.

The load forecast error can be separated into time horizons. The further the horizon from the present day, the more error in the load forecast. The current calculated load forecast errors are the following:

Short Term Daily: 2% error

Monthly: 5.7% error

Therefore, the effect of the aggregate load forecast error on transmission line loading is the following:

Time Period	Percent Effect on Capability
Same day and real-time	2% error => 1% Effect
Day-ahead and pre-schedule	2% error => 1% Effect
Beyond day-ahead and pre-schedule to 18 months	5.7% error => 3% Effect

13.1.2 Load Distribution Error

The distribution of load can vary the loading on the transmission system facilities. This is closely related to the load forecast error. Since the load distribution error is closely correlated to the load forecast error, any uncertainty that would occur because of load distribution error would already be accounted for by the load forecast error component.

13.1.3 Forecast Uncertainty in Transmission System Topology

A reasonable allowance for the impact of facility outages that may occur day-to-day should be accounted for in TRM. Although TVA accounts for outages in the short-term horizon, all transmission configurations cannot be analyzed. Therefore, a certain amount of uncertainty will exist because of variances in system topology. An average effect of transmission outages on line capabilities was determined using a PTI MUST study. In the study, each transmission line was outaged as a single contingency. If the post contingency loading was greater than 80% and the Line Outage Distribution Factor (LODF) for that contingency was greater than zero, then the effect the contingency had on that transmission line was used in the calculation. For example, if a contingency caused the loading on the Bull Run Volunteer 500-kV Transmission Line to go from 82% to 93%, then that effect was taken into account to compute the average, because the post contingency loading was greater than 80% and the LODF was not zero. An average effect on transmission line capability was calculated from the studied contingencies. Based on the study, the average is 2.8%.

Based on the study, a 3% uncertainty factor would sufficiently account for the forecast uncertainty in transmission system topology.

13.1.4 Allowances for Parallel Path (Loop Flow) Impacts

All network elements are subject to parallel path (loop) flows. These parallel path flows are the result of Transmission Service transactions that are not explicitly scheduled on the transmission system. Since these transfers are not scheduled on TVA's system, TVA cannot account for the impact of these third-party transactions. A reasonable quantity of uncommitted transmission capacity such as TRM will ensure that the reliability of the Interconnection is preserved when loop flows occur.

A study of loop flows on TVA's transmission system revealed that on average TVA historically experiences loop flows of approximately 850 MW. In order to determine the effect these loop flows have on transmission line loading, North-to-South and West-to-East transfers were modeled across TVA.

This study determined that the average change in line capability due to loop flows across TVA is 1.5%.

13.1.5 Allowances for Simultaneous Path Interactions

In the short-term horizon, TVA uses the AFC process in which transactions are accounted for using a flow-based method. Each impact from a prior request is subtracted from the TFC on each affected Flowgate. Because of this, there is no need to account for simultaneous path interactions during the short-term planning horizon. Therefore, TVA does not include any amount of uncertainty for the simultaneous path interactions in its TRM calculations in the short-term horizon.

13.1.6 Variations in Generation Dispatch

The impact of variations in generation dispatch on transmission line capability depends mostly on the proximity of the lines to the generators being dispatched. A transmission line in close proximity to a generator may have very small loading when the generator is not being dispatched and a large loading when it is being dispatched. Therefore, the net change in transmission line capacity is large. But in the context of transfer capabilities, it is only necessary to determine the effect of variations in generation dispatch on lines that could be limiting elements to the transfer. Accounting for the change in transmission line capacity for lines that are pre-loaded to 50% (excluding Generator Step-Up transformers) will determine the effect of variations in generation dispatch on lines that are more likely limits to the transfer. This will also help exclude lines that are close to offline generation in the case. The inclusion of these lines would exaggerate the results because of the large changes in line loading when the offline generation is dispatched.

For this study, two different dispatches were created. One is a “normal spring” case and the other is a “drought condition” spring case with low hydro generation. The study determined that the average change in transmission capability for the lines pre-loaded above 50% for two significantly different dispatches on the TVA transmission system is 3.0%.

13.1.7 Variations in Facility Loadings Due to Balancing of Generation within a Balancing Authority Area

System load is a dynamic quantity. Generation increases and decreases in response to these load variations. The variation in generation and load levels can inject uncertainty in the transmission network. TVA’s TRM methodology takes into account errors in generation dispatch and load forecasting. Because TVA includes these errors in the TRM calculation, any uncertainty caused by loadings due to the balancing of generation and load are already captured.

13.1.8 Short-Term System Operator Response (Operating Reserve Actions Not Exceeding a 59-Minute Window)

In compliance with NERC Standard EOP-001-0, TVA has bilateral agreements in place with neighboring utilities for short-term energy emergency assistance. Under these agreements, either party may declare an energy emergency. When this occurs, the other party shall provide emergency assistance to the extent possible without jeopardizing its own power system stability or power supply obligations. An energy emergency, as described in these agreements, is a temporary condition in which an LSE is unable or in imminent danger of not being able to meet its firm load commitments.

In order to maintain transmission capability to meet these emergency energy obligations, a study is done to determine the maximum effect of a generator unit outage on TVA’s transmission system. This type of study is known as a generation in-rush study.

Studies show that the average effect of generation inrush on TVA-owned Flowgates is 2%.

13.2 TRM Usage

Current TRM	Percent Capacity Effect
Same day and real-time	
Aggregate load forecast error impact	1.0
Forecast uncertainty in topology	3.0
Loop flow impact	1.5
Variations in Generation Dispatch	3.0
Operator Response	2.0
TRM Needed	3%
Day-ahead and pre-schedule	
Aggregate load forecast error impact	1.0
Forecast uncertainty in topology	3.0
Loop flow impact	1.5
Variations in Generation Dispatch	3.0
Operator Response	2.0
TRM Needed	3%
Beyond day-ahead and pre-schedule to 18 months	
Aggregate load forecast error impact	3.0
Forecast uncertainty in topology	3.0
Loop flow impact	1.5
Variations in Generation Dispatch	3.0
Operator Response	2.0
TRM Needed	3%

Each TVA-owned Flowgate in the AFC process will have TRM applied to it, based on the largest component of uncertainty during that time horizon for the Flowgate. The above uncertainties are used as the defaults for all applicable Flowgates. For example, in same day and real-time, 3% is the largest TRM requirement from the TRM components of uncertainty; therefore, 3% is used for that horizon. If it becomes known for a specific Flowgate that a certain component of uncertainty has become greater for a specific time period, the TRM for that Flowgate can be reevaluated and applied to the Flowgate. For example, if the loop flow impact on a certain Flowgate becomes much larger than previously expected for a certain Flowgate, the TRM on that Flowgate can be changed to reflect the new uncertainty component expectation.

13.2.1 Converting the TRM Set Aside on a Flowgate to an Amount Set Aside on a Path

TRM is presently applied against the facility ratings of network components and is measured as a percentage or MW reduction of those ratings. In order to post the amount of TRM on specific paths, the margin must be converted to a path number. This is done using the following equation:

$$\text{TRM}_{\text{Path}} = \frac{\text{TRM}_{\text{Flowgate}}}{\text{TDF}_{\text{Path}}}$$

13.2.2 Availability of TRM to the Market on a Non-Firm Basis

TVA does not make TRM available on a non-firm basis, due to the uncertainty still present in the non-firm transfer capability calculations.

14.0 Capacity Benefit Margin (CBM)

CBM is established to ensure that TVA retains enough transmission capacity to allow sufficient power to be imported to replace any generation resources that may not be available as planned to serve the native load of the system. CBM allows Load Serving Entities (LSEs) to reduce their installed generating capacity below that which may otherwise have been necessary, without interconnections, to meet generation reliability requirements. The transmission capability preserved as CBM is intended to be used by LSEs only in times of emergency generation deficiencies. When not being used, TVA makes transmission capability, preserved for CBM, available on a non-firm basis to all transmission customers.

14.1 Methodology for Calculating CBM

Current methodology for calculating CBM is based on aligning the CBM requirement with the Operating Reserve requirements.

CBM = Largest controlled unit interconnected to TVA transmission + Regulating Reserves + Spinning Reserves

Component	MW
Largest Interconnected Unit: Cumberland Fossil Unit	1340 MW
Regulating Reserves Requirement	150 MW
Spinning Reserves Requirement	340 MW
Total	1830 MW

TVA's current CBM is 1900 MW (rounded).

During previous extreme weather situations, many of the adjoining areas have had little surplus generating capacity to sell into TVA. Accessibility to generation in adjoining areas may also be limited by transmission constraints.

Total CBM is prorated to all of TVA's interfaces according to historical knowledge of generation purchases, interface Contract Path limits, and volatility of incremental transfer capability.

TVA updates the CBM values every year and the values are reviewed prior to every peak season or as required by conditions on the transmission system. CBM values may be adjusted on an as-needed basis.

14.2 Interface Reservations

The Balancing Authority makes annual determinations regarding interface reservations needed to support the calculated CBM requirement.

Interface Reservations (current):

Company	MW
AECI	50
AEP	500
AMRN	250
BREC	50
CPLW	50
DUK	50
EES	300
EKPC	50
LGEE	200
SOCO	400
Total	1900

14.3 CBM Usage

During the conditions indicated below, CBM can be used to import power by TVA for its native load and network customers and LSEs within the TVA Balancing Authority area. During conditions when resources are projected to be insufficient (herein called a "Generation Shortage") to serve TVA's native load and network customers, CBM may be used to import power on a firm basis to ensure the continued reliability of service.

The use of CBM is allowed when the following steps have been taken or the following conditions exist:

- All non-firm sales have been terminated.
- Direct-Control Load Management has been implemented.
- Customer interruptible demands have been interrupted.
- A Generation Shortage has been declared by the TVA Balancing Authority or an LSE.
- TVA or the LSE's TSP is also experiencing transmission constraints, relative to imports of energy on its transmission system.
- There is insufficient posted firm ATC on the interface over which power may be obtained to address the Generation Shortage.

14.4 CBM Usage Process

To use CBM (provided the above noted conditions are met):

- A. The LSE experiencing a Generation Shortage shall notify the TVA Balancing Authority System Operator that it has declared a Generation Shortage and that there is insufficient posted firm ATC on the interface over which power may be obtained to address the Generation Shortage.
- B. The TVA Balancing Authority System Operator shall notify the TVA Reliability Coordinator System Operator that the LSE has declared a Generation Shortage and request implementation of an Energy Emergency Alert (Level 1, 2, or 3 as appropriate). The TVA Balancing Authority System Operator shall notify the TVA Transmission & Interchange Services Operator that there is insufficient posted firm ATC on the interface over which power may be obtained to address the Generation Shortage.

- C. The TVA Transmission & Interchange Services Operator will ensure that the CBM is made available and will make any curtailment necessary of non-firm schedules to provide the ATC on the CBM path.
- D. The Purchasing/Selling Entity shall submit a Transmission Schedule using the appropriate transaction number for reserved CBM.
- E. The TVA Transmission & Interchange Services Operator shall approve the request.

When not being used, TVA makes CBM available on a non-firm basis to all transmission customers using the standard ATC posting for non-firm. If CBM is needed for existing native load, those non-firm reservations on the specific path will be subject to curtailment following existing procedures.

ATTACHMENT D**Methodology for Completing a System Impact Study****Foreword**

A System Impact Study performed at the request of an Eligible Customer will be consistent with Parts I and II of these Guidelines or Parts I and III of these Guidelines. The study will use Good Utility Practice, engineering and operating principles, and standards, guidelines, and criteria of TVA, SERC, NERC, or any similar organization that may exist in the future of which TVA is then a member. The System Impact Study will identify TVA facilities that limit ATC and determine possible upgrades, expansions, other modifications, or redispatch to relieve the constraint. If a limit occurs in neighboring systems, TVA will cooperate with other entities to develop solutions jointly.

TVA will use its sole discretion as to the scope, details and methods used to perform the study. If necessary, a meeting between TVA and the Eligible Customer will be held as soon as practicable to: (1) review the application and any known issue that could affect the scope of the study; and (2) develop a scope of study. The location of the meeting shall be at TVA's offices unless another location is mutually acceptable.

Studies performed by TVA include both near-term (operating and operational planning) studies and also longer-term (planning) studies. Operating and operational planning studies are normally performed for conditions within a one-year period. These studies identify contingency-related transmission deficiencies that may be encountered, and formulate corrective measures to mitigate the deficiency. Planning studies generally involve studies beyond one year. Planning studies have a larger degree of uncertainty than operating studies. These studies identify deficient areas in the transmission and generation system and solutions are proposed which may include facility additions, upgrades, or other modifications.

Studies are performed for all projected seasonal periods. Generation output in the study case is based on the principles of economic dispatch. The combination of load and capacity studied is a snapshot of TVA system conditions. Additional studies may need to be performed to evaluate off-peak periods and study specific outages of transmission and generation facilities.

An overall review of the TVA bulk Transmission System (500 kV, 230 kV, 161 kV, and 115 kV) is performed periodically. Additionally, specific areas of the TVA system may be studied for new customer, significant load, and generation changes. These reviews may also indicate the need for additional transmission facilities.

TVA will protect proprietary and confidential information concerning requests for Transmission Service and other transmission providers' systems.

System Impact Studies

Impacts to the Transmission System will be identified using load-flow analysis, fault analysis, transient stability analysis, and transfer analysis, as applicable, depending on the proximity of the source or sink listed in the transmission service request. Seasonal base cases will be used in the analyses, depicting the expected transmission configuration for the time frame requested in the transmission service request. Consistent with Section 2.2 of these Guidelines, existing firm reservations for the same time frame will be modeled as part of the base case.

The System Impact Study will be performed using industry standard software. The base cases used in the System Impact Study are derived from the reference cases listed in Attachment C of

these Guidelines. The reference cases will be updated with the latest available transmission configuration and load projections. Planned maintenance outages of generation and transmission facilities matching the time frame of the transmission service request will also be modeled in the base case(s).

If insufficient ATC is calculated based on limits on neighboring transmission providers' systems, the neighboring transmission provider is asked to verify the limit. If the neighboring transmission provider verifies the limit, TVA will honor the external limit and will notify the Eligible Customer. If insufficient ATC is calculated based on TVA transmission facility limits, TVA will issue a System Impact Study report to the Eligible Customer, detailing the limitations and providing a rough estimate of upgrade costs. For requests for Firm Point-to-Point Service, the System Impact Study will include an assessment of the feasibility of providing Transmission Service in accordance with Section 15.3(B) or Section 15.3(C) of the Guidelines, if requested by the Eligible Customer in accordance with Section 17.2 (Completed Application for Firm Service).

System Impact Studies for Long-Term Firm Transmission Service Extending Beyond a Ten-Year Planning Horizon

It is an accepted industry standard that models are only produced for a period of 10 years into the future, and for that reason TVA currently uses a ten-year planning horizon. Accordingly, System Impact Studies for transmission service requests extending beyond this planning horizon will be conducted in phases. Initially, TVA will conduct a System Impact Study covering a ten-year time frame. That portion of the transmission service request that falls within the ten-year planning horizon will be studied at the Eligible Customer's expense and the results of those years within the planning horizon, including applicable assessments of the feasibility of providing Transmission Service in accordance with Section 15.3(B) or Section 15.3(C) of the Guidelines as requested by the Eligible Customer in accordance with Section 17.2 (Completed Application for Firm Service) will be made available to the Eligible Customer at the completion of the study. Every subsequent year, each subsequent year of the transmission service request will roll into TVA's ten-year planning model and undergo study. At the completion of each year's study, TVA will make a System Impact Study report available for the Transmission Customer's consideration. The Transmission Customer can renew its request for service each year for the life of its original request, contingent upon the Transmission Customer's agreement to pay the costs of Transmission System upgrades (including the cost of Facilities Studies), if any, identified in the new study each year, as required for TVA to be able to provide the requested service for the rolling ten-year period.

If the Transmission Customer decides not to pay for any necessary upgrades identified in an annual study, then the Transmission Customer forgoes all rights to Long-Term Firm Transmission Service beyond those years in the ten-year planning horizon that TVA previously studied and for which the Transmission Customer has previously committed. If the Transmission Customer chooses to continue Transmission Service and pay for all necessary Transmission System upgrades as identified in each year's study, then at the end of the period for which the Transmission Customer had requested Transmission Service, the Transmission Customer will have such rights of first refusal for Transmission Service beyond that date as available under these Guidelines or any replacement terms and conditions for transmission service.

ATTACHMENT E**Index of Point-To-Point Transmission Service Customers**

Customer	Date of Service Agreement
AES Power, Inc.	1/16/97
Alcoa Power Generating, Inc.	8/2/06
Ameren Energy, Inc.	5/8/01
Ameren Energy Marketing Peoria Wholesale	12/21/05
Ameren Services Company	11/1/99
American Electric Power Service Corporation	9/8/97
Arkansas Electric Cooperative Corporation	1/1/97
Associated Electric Cooperative, Inc.	1/1/97
Barclays Bank, P.L.C.	8/14/09
Big Rivers Electric Corporation	1/1/97
BP Alternative Energy North America	7/18/01
Brookfield Energy Marketing, Inc.	2/28/06
Calpine Energy Services, L.P.	4/16/02
Cargill Power Markets, L.L.C.	1/10/98
Cinergy Services, Inc.	1/1/97
Citigroup Energy, Inc.	11/14/06
CNG Power Services Corporation	1/1/97
Cobb Electric Membership Corporation	7/3/03
Conectiv Energy Supply, Inc.	6/7/01
Conoco Phillips Company	9/20/02
Constellation Energy Commodities Group, Inc.	12/9/97
Coral Power, L.L.C.	1/1/97
Dayton Power & Light Company (The)	8/6/97
Delmarva Power & Light Company	2/1/99
Detroit Edison Company (The)	2/6/99
DTE Energy Trading, Inc.	5/26/00
Duke Energy Kentucky, Inc.	10/1/06
Duke Energy Ohio, Inc.	10/1/06
Duke Energy Trading and Marketing, L.L.C.	7/30/97
Duke Power, a division of Duke Energy Corporation	8/1/98
Eagle Energy Partners I, L.P.	5/17/04
East Kentucky Power Cooperative, Inc.	1/1/97
Edison Mission Marketing & Trading, Inc.	7/2/97
Endure Energy, L.L.C.	9/23/08
Empire District Electric Company	2/13/08
Energy Authority, Inc. (The)	8/15/97
Energy Power Marketing Corporation	1/1/97
Energy Services, Inc.	1/1/97
Exelon Generation Company, L.L.C.	9/1/01
Florida Power & Light Company	1/1/97
Florida Power Corporation	7/28/97
Fortis Energy Marketing and Trading, G.P.	10/1/06
FPL Energy Marketing, Inc.	2/9/06
Georgia Transmission Corporation	5/4/06
Hess Corporation	5/3/06

Illinois Power Company	3/17/97
J. Aron and Company	5/24/02
J.P. Morgan Ventures Energy Corporation	9/1/08
Jacksonville Electric Authority	1/1/97
Kansas City Power & Light Company	5/19/97
LG&E Energy Marketing, Inc.	1/1/97
Louisville Gas and Electric Company/Kentucky Utilities Company	9/29/99
Merrill Lynch Commodities, Inc.	11/1/04
MidAmerican Energy Company	11/1/97
MidCon Power Services Corporation	1/1/97
Minnesota Power & Light Company	6/16/97
Morgan Stanley Capital Group, Inc.	2/12/97
North Carolina Municipal Power Agency, Number 1	9/13/04
Northern States Power Company	4/1/98
NRG Power Marketing, Inc.	1/5/01
Occidental Power Services, Inc.	6/02/03
OGE Energy Resources, Inc.	6/8/98
Oglethorpe Power Corporation	1/1/97
PanCanadian Energy Services, Inc.	3/30/99
Power Company of America, L.P. (The)	1/29/97
Powerex Corporation	3/27/00
PP&L EnergyPlus Company	5/28/99
Progress Energy Carolinas, Inc.	1/1/97
PSEG Energy Resources and Trade, L.L.C.	8/9/02
PSI Energy, Inc.	11/30/05
Public Service Company of Colorado	5/11/99
Rainbow Energy Marketing Corporation	1/1/97
Reliant Energy Services, Inc.	2/2/99
Santee Cooper (The South Carolina Public Service Authority)	2/16/06
Sempra Energy Trading Corporation	3/4/97
Silverhill Ltd., G.P. for Aquilon Power Silverhill Fund, L.P.	7/11/08
South Carolina Electric and Gas Company	6/3/04
South Mississippi Electric Power Association	8/15/08
Southern Company Services, Inc.	1/1/97
Southern Illinois Power Cooperative	10/9/97
Southwestern Public Service Company	5/11/99
Statoil Energy Trading, Inc.	4/2/99
Suez Energy Marketing NA, Inc.	8/11/05
Tenaska Power Services Company	12/23/97
TransAlta Energy Marketing (U.S.) Inc.	7/24/99
TransCanada Power	6/1/97
UBS AG, London Branch	5/2/02
Union Power Partners, L.P.	2/12/03
UtiliCorp United, Inc.	1/1/97
Virginia Electric and Power Company	3/31/97
Vitol Gas & Electric, L.L.C.	1/1/97
Westar Energy, Inc.	10/8/97

ATTACHMENT F**Service Agreement for Network Integration Transmission Service**

- 1.0 This Service Agreement, dated and effective as of _____, is entered into, by and between the Tennessee Valley Authority ("TVA") and _____ ("Transmission Customer").
- 2.0 The Transmission Customer has been determined by TVA to have a Completed Application for Network Integration Transmission Service under TVA's Transmission Service Guidelines ("Guidelines").
- 3.0 Based on TVA's creditworthiness determination, the Transmission Customer has provided to TVA an Application deposit in the amount of \$_____, in accordance with the provisions of the Guidelines.
- 4.0 Service under this Service Agreement shall commence on the later of _____ or the date on which construction of any Direct Assignment Facilities, Network Upgrades, and/or other modifications necessary to satisfy the request for Transmission Service are completed. Service under this Service Agreement shall terminate on _____.
- 5.0 TVA agrees to provide and the Transmission Customer agrees to take and pay for Network Integration Transmission Service in accordance with the provisions of Parts I and III of the Guidelines and this Service Agreement, including the Specifications for Network Integration Transmission Service, and the Network Operating Agreement ("NOA").
- 6.0 Scheduling for Network Integration Transmission Service will be addressed in the NOA. Equipment necessary for dynamic scheduling, if applicable, and additional costs related to scheduling will be addressed in the NOA.
- 7.0 The rate treatment and all related terms and conditions applicable in the event that the Transmission Customer fails to respond to established Load Shedding and Curtailment Procedures will be specified in the NOA.
- 8.0 TVA shall not be obligated to supply power and energy from its own sources or from its purchases from other neighboring systems during interruptions or curtailments in the delivery to TVA of power and energy for Transmission Service hereunder, and nothing in this Service Agreement or in the Transmission Customer's agreements with others shall have the effect of making, nor shall anything in the Service Agreement or said agreements with others be construed to require TVA to take any action which would make TVA, directly or indirectly, a source of power supply to the Transmission Customer, to any Delivering Party or Receiving Party, or to any ultimate recipient in violation of the TVA Act of 1933, as amended.
- 9.0 Any notice or request made to or by either Party regarding this Service Agreement shall be made to the representative of the other Party as indicated below. The designation of the person to be so notified or the address of such person may be changed at any time and from time to time by either Party by similar notice.

TVA:

Transmission System Services
Tennessee Valley Authority
1101 Market Street, PCC 2A
Chattanooga, Tennessee 37402-2801

Transmission Customer:

- 10.0 Invoices for Transmission Service will be submitted to the Transmission Customer by e-mail link to a secure electronic website, U.S. mail, or facsimile. The Transmission Customer's billing address, facsimile number, and e-mail address are indicated below. The Transmission Customer may modify the information specified below by written notice to TVA in accordance with Section 9.

- 11.0 The Guidelines, the Specifications for Network Integration Transmission Service, and the NOA, all as may be modified or amended from time to time, are incorporated herein and made a part hereof. In the event of any conflict between the Guidelines and this Service Agreement, including the Specifications for Network Integration Transmission Service, or the NOA, the Guidelines shall control. In the event of any conflict between this Service Agreement, including the Specifications for Network Integration Transmission Service, or the NOA, the NOA shall control.
- 12.0 Any waiver at any time by either Party of its rights with respect to any default of the other Party or with respect to any other matter arising in connection with this Service Agreement shall not be considered a waiver with respect to any other default or matter.
- 13.0 The validity, interpretation, and performance of this Service Agreement shall be governed by applicable Federal law.
- 14.0 This Service Agreement shall not be construed to create rights in, or to grant remedies to, or delegate any duty, obligation, or undertaking established herein to any third party as a beneficiary to this Service Agreement.
- 15.0 Nothing contained in this Service Agreement shall restrict or limit either Party from establishing, altering or terminating interconnection points with any entity not a party to this Service Agreement or amending or entering into such agreements.
- 16.0 This Service Agreement shall inure to the benefit of and be binding upon the successors and assigns of the Parties. This Service Agreement shall not be assigned by either Party without the written consent of the other Party.

- 17.0 The applicable provisions of this Service Agreement will continue in effect after termination of the Service Agreement to the extent necessary to provide for final billing, billing adjustments and payments, and with respect to liability and indemnification from acts or events that occurred while this Service Agreement was in effect.

- 18.0 By signing below, the Transmission Customer verifies that all information submitted to TVA to provide Network Integration Transmission Service under the Guidelines is complete, valid and accurate, and TVA may rely upon such information to fulfill its responsibilities under the Guidelines.

IN WITNESS WHEREOF, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

TVA:

By: _____
Name: _____
Title: _____

Date: _____

Transmission Customer:

By: _____
Name: _____
Title: _____

Date: _____

Specifications For Network Integration Transmission Service

1.0 Name, Address, Telephone and Fax Number of Transmission Customer:

2.0 Description of Network Load:

(1) Substation Locations:

Load:

Voltage Level:

(2) Substation Locations:

Load:

Voltage Level:

(a ten year forecast and additional locations shall be attached)

3.0 Interruptible Loads:

Summer & Winter Demand:

Load Subject to Interruption:

Conditions & Limitations:

4.0 Network Resources (attach a current & 10 year projection):

Unit size and amount of capacity from that unit to be designated as Network Resource:

VAR capability (both leading and lagging) of all generators:

Operating restrictions:

- Any periods of restricted operations throughout the year
- Maintenance schedules
- Minimum loading level of unit
- Normal operating level of unit
- Any must-run unit designations required for system reliability or contract reasons

Approximate variable generating cost (\$/MWh) for redispatch computations:

Arrangements governing sale and delivery of power to third parties from generating facilities located in TVA's Control Area, where only a portion of unit output is designated as a Network Resource:

Description of purchased power designated as a Network Resource including source of supply, Control Area location, transmission arrangements and delivery point(s) to TVA's Transmission System:

- 5.0 Description of Transmission Customer's Transmission System (attach the following):
- Load flow and stability data, such as real and reactive parts of the load, lines, transformers, reactive devices and load type, including normal and emergency ratings of all transmission equipment in a load flow format compatible with that used by the TVA
 - Operating restrictions needed for reliability
 - Operating guides employed by system operators
 - Contractual restrictions or committed uses of the Transmission Customer's transmission system, other than the Transmission Customer's Network Loads and Resources
 - Location of Network Resources described above
 - 10 year projection of system expansions or upgrades
 - Transmission System maps that include any proposed expansions or upgrades
 - Thermal ratings of Transmission Customer's Control Area ties with other Control Areas

6.0 Name(s) of any Intervening Systems Providing Transmission Service: _____

7.0 Service under this Agreement may be subject to or conditioned upon some combination of the charges detailed below. (The appropriate charges for individual transactions will be determined in accordance with the terms and conditions of the Guidelines.)

7.1 Transmission Charge: _____

7.2 System Impact and/or Facilities Study Charges: _____

7.3 Ancillary Services Charges: _____

7.4 Direct Assignment Facilities Charge: _____

7.5 Network Upgrade Charges: _____

7.6 Redispatch Charges: _____

7.7 Letter of Credit Required of Customer: _____

7.8 Stranded Investment Charge: _____

8.0 Power Factor To Be Maintained by Transmission Customer: The Network Customer shall maintain the power factor of the delivered energy in the following range:

9.0 Party Responsible for Providing Real Power Losses:

10.0 Equipment To Be Installed by Transmission Customer Prior to Service:

11.0 Designation of any Party Subject to Reciprocal Service Obligation:

ATTACHMENT G

Network Operating Agreement

The subjects to be addressed at a minimum in the Network Operating Agreement between TVA and the Network Customer are:

Term of Agreement

Control Area Requirements

Redispatch Procedures

Metering, Control Area and Data Equipment

Operating Requirements

- Standards

- Avoidance of Disturbances

- Load Shedding

- Underfrequency Load Shedding

Dynamic Scheduling (if applicable)

Operational Data to be Provided

Network Planning

Characteristics of Power Delivered

Transfer of Power and Energy Through Other Systems (if applicable)

Network Operating Committee

Confidentiality

Additional topics will be addressed in the Network Operating Agreement when needed to provide for specific situations in addition to those listed above.

ATTACHMENT H

Annual Transmission Revenue Requirement for Network Integration Transmission Service

1. The Annual Transmission Revenue Requirement for purposes of the Network Integration Transmission Service shall be \$571,290,241.
2. The amount in (1) shall be effective until amended by TVA.

ATTACHMENT I

Index of Network Integration Transmission Service Customers

Customer	Date of Service Agreement
Alabama Power Company	9/1/97
Georgia Power Company	6/1/00

ATTACHMENT J**Source and Sink Requirements for Point-to-Point Transmission Service**

1. **Generally:** All Transmission Customers taking service under the point-to-point transmission service provisions of TVA's Transmission Service Guidelines ("Guidelines") must submit to TVA OASIS reservations and associated transmission schedules that designate sources and sinks which are specific and valid.
2. **Definitions**
 - 2.01 **Source:** A "source" is the location of the generating facility(ies) supplying the capacity and energy to be transmitted.
 - 2.02 **Sink:** A "sink" is the location of the load ultimately served by the capacity and energy transmitted.
3. **Valid Sources and Sinks**
 - 3.01 **Source:** The source must be a specific and valid generator. The source shall be identified by the Control Area where the source generating unit is actually located. A load or a load-only Control Area is not a valid source.
 - 3.02 **Sink:** The sink must be a specific and valid load. The sink shall be identified by the Control Area where the load is actually located. A generator or a generator-only Control Area is not a valid sink.
 - 3.03 **Additional Information:** For transmission evaluation purposes, TVA reserves the right to require in the future additional information concerning sources and sinks on the TVA Transmission System, including, for example, specific bus bar location on the TVA Transmission System.
4. **Scheduled Amount:** The scheduled amount for any point-to-point transmission schedule cannot exceed the amount of the TVA-approved OASIS reservation and for sources and sinks on the TVA Transmission System either of the following: (a) for sources, the rated capability of the generating facility(ies) at the generator bus on the TVA Transmission System; or (b) for sinks, the maximum allowable load at the load bus on the TVA Transmission System. Paths posted on the TVA OASIS shall indicate any applicable limitations.
5. **Transmission Service Schedules:** Transmission Customers shall submit transmission schedules consistent with the approved TVA OASIS reservations. If the Transmission Customer needs to change the specific source and/or sink, it will do so by requesting a new reservation or a modification in the TVA OASIS reservation as provided in TVA's Guidelines.
6. **Modifications in Firm Service Specifications**
 - 6.01 **Generally:** Source and/or sink information provided in an OASIS reservation can be modified consistent with Section 22 of TVA's Guidelines (Changes in Service Specifications).

- 6.02 Service under Section 22 of TVA's Guidelines (Changes in Service Specifications):** A request from a Transmission Customer to modify source and/or sink information provided in the original OASIS reservation shall constitute a request to modify Transmission Service and the following procedures shall be followed:
- 6.02.01** Pursuant to Section 22 (Changes in Service Specifications) of TVA's Guidelines and Section 6.03 of this attachment, TVA shall determine whether the change in source or sink information requires it to provide service over Receipt or Delivery Points other than those specified in the original OASIS reservation and whether TVA has the capability in the TVA Transmission System to provide the modified Transmission Service.
- 6.02.02** If the change in source or sink information does not require TVA to provide service over Receipt or Delivery Points other than those originally specified in the OASIS reservation and if TVA determines that it has the capability in the TVA Transmission System to provide the modified Transmission Service, then TVA shall accept the modification in the transmission reservation.
- 6.02.03** If the change in source or sink information does require TVA to provide service over Receipt or Delivery Points other than those originally specified in the OASIS reservation or if TVA determines that it does not have the capability in the TVA Transmission System to provide the modified Transmission Service, then TVA shall refuse the modification in the transmission reservation, and the Transmission Customer shall have the option of: (a) retaining the original OASIS reservation; (b) submitting a new OASIS reservation for firm service over the new Receipt or Delivery Points consistent with Section 22.2 of TVA's Guidelines (Modifications on a Firm Basis); or (c) submitting a new OASIS reservation for non-firm service over Secondary Receipt or Delivery Points consistent with Section 22.1 (Modifications on a Non-Firm Basis) of TVA's Guidelines.
- 6.03 Changes in Receipt or Delivery Points.** Modifications to source and sink information may require TVA to provide service over Receipt or Delivery Points (other posted paths on the TVA Transmission System) other than those originally specified in the original OASIS reservation, if either of the following applies:
- 6.03.01** For original sources or sinks on the TVA Transmission System, the new source or sink is located in a different Control Area than the original source or sink OR is connected to the TVA Transmission System at a different transmission substation than the original source or sink.
- 6.03.02** For original sources or sinks off the TVA Transmission System, the new source or sink is located in a different Control Area than the original source or sink AND TVA would have evaluated different Receipt or Delivery Points in deciding whether to grant the original service request.

7. **NERC Tags as Schedules.** In order to minimize scheduling work for all entities, TVA will accept NERC Tags as transmission schedules, provided that the information described above is supplied on the NERC Tags.

ATTACHMENT K

Procedures for Addressing Parallel Flows - Transmission Loading Relief Procedures

TVA hereby agrees to employ in connection with the operation of the TVA Transmission System the currently effective NERC Standard IRO-006 - Reliability Coordination - Transmission Loading Relief which is hereby incorporated by reference and made a part hereof, as hereinafter supplemented by NERC and approved by FERC.

ATTACHMENT L**Creditworthiness Procedures****1. CREDIT REVIEW**

For the purpose of determining the ability of a Transmission Customer to fulfill its financial obligations related to Transmission Service under the Guidelines, TVA employs reasonable credit review procedures in accordance with standard commercial practices. The credit review procedures consist of data collection, credit evaluation, and overall determination of a Transmission Customer's creditworthiness, as set out in this Attachment L.

2. CREDIT PROCEDURES

- A. Type of Review & Frequency. TVA shall conduct a review of the creditworthiness of each Transmission Customer based upon information provided as part of the application for Transmission Service. The creditworthiness review shall be conducted upon the Transmission Customer's initial request for Transmission Service, and shall be conducted thereafter not less frequently than annually.
- B. Discretion. In addition, a creditworthiness review may be conducted at the discretion of TVA to re-evaluate the Transmission Customer's creditworthiness in the event that the credit assurances previously provided by the Transmission Customer may have become insufficient to protect TVA against the risk of non-payment, or when TVA has reason to believe that the Transmission Customer may have experienced a material change in its financial condition. Based on any such creditworthiness review, TVA may require the Transmission Customer to provide credit assurance, or increase its previously provided credit assurance, before Transmission Service is initiated or continued.

3. CREDIT EVALUATION

- A. Transmission Customer shall provide the following information to TVA as part of the initial application process, as well as to support the ongoing creditworthiness review:
 - i. Financial Statements - Audited financial statements for the last three (3) years that include an accountant's opinion letter, balance sheet, income statement, statement of cash flows, and notes to the statements. Additionally, Transmission Customer shall submit the most recent unaudited quarterly financial statement, in conjunction with any application for Transmission Service or any subsequent review of creditworthiness.
 - ii. Agency Credit Ratings & Reports - The senior unsecured long-term debt ratings assigned to Transmission Customer by Standard & Poor's, Moody's Investors Service and Fitch Ratings. If the senior unsecured debt rating is not available, then the long-term issuer rating will be used. Additionally any credit reports or analyses published by the rating agencies should also be provided.
 - iii. Company Information - Supplementary information, including but not limited to, organization charts evidencing parent and subsidiary relationships. Legal name and state of registration/organization.

- iv. Material Issues - Any information that could impact the viability of the Transmission Customer, including, but not limited to, litigation, investigations, bankruptcy, arbitrations, contingencies, liabilities and affiliate relationships.
 - v. Other - Such other information as TVA determines it is reasonable to require from the Transmission Customer.
- B. Creditworthiness Standard. TVA's determination of Transmission Customer's creditworthiness for Transmission Service will be based on several factors including but not limited to:
- i. Amount of Transmission Service requested;
 - ii. Customer payment history;
 - iii. At least one (1) year of business history;
 - iv. Prior history of bankruptcy or delinquent payment history;
 - v. Credit rating of at least 'BBB-/Baa3' or higher by two of the three rating agencies. If Transmission Customer is only rated by two agencies, then TVA will use the lower of the two ratings;
 - vi. If Transmission Customer is not rated by any of the rating agencies, then TVA's determination of Customer's financial condition will be based on an internal credit analysis and rating that determines and assigns the equivalent of a rating agency credit rating. Factors affecting the internal rating include the following:
 - Strength and size of balance sheet, as indicated by degree of financial leverage, debt and equity capitalization, etc.;
 - Quality and consistency of revenue, earnings and cash flow from operations, as indicated by margins, interest coverage ratios, etc.;
 - Sources of available liquidity;
 - Operating and regulatory environment; and
 - Ownership structure

4. CREDITWORTHINESS DETERMINATION

- A. Credit Exposure Calculation.** A Transmission Customer's Transmission Service credit exposure will be established by TVA in an amount equal to the greater of (1) the last three (3) highest months of historical Transmission Service usage based on a 12-month period, or (2) three (3) months of estimated total charges.
- B. Unsecured Credit.** Transmission Customers, who meet TVA's creditworthiness standard in a manner sufficient to fully support the current or potential credit exposures, will be granted some level of unsecured credit.
- C. Secured Credit.** If TVA determines that a Transmission Customer is not creditworthy, or at any time not fully able to support its current or potential credit exposures based solely on

financial viability, TVA will require Transmission Customer to provide credit assurance as listed in Section 5(C).

- D. Notification. On TVA's determination that Transmission Customer is not creditworthy, TVA will provide within ten (10) days of Customer's request, notification by e-mail of the basis for TVA's determination and of TVA's credit assurance requirements specified in Section 5(C).
- E. Ongoing Financial Review and Changes in Creditworthiness. Not less frequently than annually and as otherwise provided in Section 2(B), TVA may re-evaluate the Transmission Customer's creditworthiness based on changes in credit rating or financial condition, changes in the amount of the credit exposure, or in the event that the credit assurance previously provided by the Transmission Customer has become insufficient to protect TVA against the risk of non-payment. TVA will provide within ten (10) days of the review TVA's notification to the Transmission Customer, indicating the basis for TVA's determination and of TVA's credit assurance requirements specified in Section 5(C).

5. CREDIT ASSURANCE

- A. Criteria. A Transmission Customer who does not satisfy the creditworthiness requirements based on TVA's creditworthiness standards, or whose obligations are greater than the underlying credit exposures, will be required to provide credit assurance to TVA.
- B. Amount. The amount of credit assurance (collateral) that the Transmission Customer shall be required to provide under its Transmission Service agreements with TVA will be equal to an amount determined by TVA under Section 4(A).
- C. Forms of Credit Assurance. The following are forms of credit assurance (eligible collateral) to be issued in an amount sufficient to satisfy the estimated amount of credit exposure.
 - i. Parent Guaranty - a corporate guaranty in a form and substance acceptable to TVA, issued by an entity which has and maintains at least a senior unsecured credit rating with Standard & Poor's of 'BBB-' or higher, and with Moody's Investors Service, of 'Baa3' or higher.
 - ii. Letter of Credit - an unconditional and irrevocable standby letter of credit in form and substance acceptable to TVA issued by a domestic commercial bank having a senior unsecured credit rating with Standard & Poor's of 'A-' or higher, and with Moody's Investors Service, of 'A3' or higher. The letter of credit must also be issued for a minimum term of one year and must automatically renew 30 days in advance of the expiration date. In the event the letter of credit is not renewed, then the full amount of the letter of credit will be drawn down and held by TVA as a cash deposit. In the event the letter of credit is partially drawn down below the level of the collateral required (credit exposure), because of non-payment, Customer shall replenish the amount of the letter of credit to the required level within ten (10) days. Failure to do so will cause the Transmission Customer to be in default under the Guidelines.
 - iii. Cash Deposit - a cash deposit will be held by TVA and accrue interest at the average rate of TVA's short-term borrowings for each calendar quarter. In the event the cash deposit is partially drawn down below the level of the collateral

required (credit exposure), because of non-payment, Customer shall replenish the amount of the cash deposit to the required level within ten (10) days. Failure to do so will cause the Transmission Customer to be in default under the Guidelines.

- D. Right to Contest. Transmission Customer may make reasonable requests in writing for TVA to re-evaluate the amount and/or form of credit assurance required pursuant to Section 4 and/or this Section. TVA will provide within ten (10) days of the request from the Transmission Customer, a written response indicating the basis for TVA's determination of the amount and/or form of credit assurance requirement.

6. SUSPENSION OF SERVICE

- A. Notwithstanding any other provision of under the Guidelines, if a Transmission Customer fails to provide the entire amount of the required credit assurance when due under this Attachment L, TVA may suspend Transmission Service to such Transmission Customer fifteen (15) calendar days after TVA's notification to such Transmission Customer as provided in Section 6.3(B) of the Guidelines.
- B. TVA will provide notice to the Transmission Customer that it must provide any credit assurance by the deadline specified in the notice, and that TVA may take corrective actions, including the suspension of Transmission Service pursuant to Section 6.3(B) of the Guidelines, if the Transmission Customer fails to provide the required credit assurance by the specified deadline.