Product Conversion Process
Customer Education

June 21, 2019
• Transmission Service Products Comparison
• Characteristics of Network Integration Transmission Service
  ✓ Cycle of NT Service
  ✓ Description of NT Service
  ✓ Application for NT Service
  ✓ Review Service Agreement
  ✓ Network Operating Agreement
  ✓ Planning for NT Service
  ✓ Managing Curtailments for NT Service
• BPA’s Approach to Product Conversion
  ✓ Conversion Principles
  ✓ Transition to NT Service
• Billing & Rates
  ✓ Components of an NT Bill
• Power Service Contract Considerations
• Things to watch for
Transmission Service Products Comparison
The Open Access Transmission Tariff (the Tariff) delineates the terms and conditions of providing and taking transmission service.

- BPA’s Tariff provides for two types of Transmission Service:
  - Point-to-Point (PTP) Service
    - Terms and conditions of PTP Service are located in Part II of the Tariff.
    - PTP Service allows the Customer to move power from a Point of Receipt to a Point of Delivery
    - Billed on reservation capacity
  - Network Integration Transmission Service (NT Service)
    - Terms and conditions of NT Service are located in Part III of the Tariff
    - Available only for service to Network Load
    - Billed based on metered Network Load
Characteristics of NT Service
Cycle of NT Service

**NT Application for Service**

1. Execute NT Agreement; Network Operating Agreement; Pay NT rate; Submit 10 year Load and Network Resource Forecast

2. Customer provides annual update of Load and Network Resource forecast. Examples:
   - Load Growth/ New Load/ Reduction in Load
   - New/ Alternative Network Resource(s)

3. BPA evaluates transmission system impact of customer’s annual load and resource update

4. 1. Encumber firm ETC or,
    2. Offer alternative encumbrance if available or,
    3. Customer chooses alt. Network Resource or,
    4. Participate in study

Modify Agreement or Network Operating Agreement accordingly
Characteristics of NT Service cont.

NT Service may only be used to serve the Customer’s Network Load.

- NT Service allows the Customer to integrate, economically dispatch and regulate its current and planned Network Resources to serve its Network Load.

- NT Customer may deliver energy purchases to Network Load from non-designated resources on Secondary NT transmission.
  - No additional charge for Secondary NT
  - “As available” basis
  - NERC Curtailment Priority 6NN non-firm

- Behind the meter resources are not netted with Network Load.
  - The effect is to include the behind the meter resource with metered load for NT billing purposes.
  - Reason: TP must plan the system to meet the NT customers entire Network Load, including load served by behind the meter resources.

- To facilitate planning, NT customers must provide BPA with an annual update of load and resources forecasts for the next ten years
Characteristics of NT Service

- Designating Network Load
  - NT Customer must designate Network Load at discrete Points of Delivery (POD) to be served through NT Service.

- Designating Network Resources
  - NT Customer designates a Network Resource (DNR) to serve Network Load on firm transmission.
  - Designation of a Network Resource (federal or non-federal) requires the submittal of TSR.
  - Designation requires the customer to attest that it has rights to generation.
  - BPA may require detailed information about the Network Resource.
Characteristics of NT Service

- Undesignating Network Resources
  - Third-party sales of a DNR
  - Loss or contractual-rights or generation output for one year of longer requires undesignation
  - Only PTP transmission may be used for third-party sales
- Temporary Undesignation
  - NT Customer may temporarily undesignate all or a portion of a DNR
  - NT Customer will forfeit rights for the term of undesignation
  - ATC rights will be reinstated after the term of undesignation
- Permanent Undesignation
  - NT Customer forfeits ETC rights and reservation priority
Characteristics of NT Service

• Redirects
  ✓ NT Service may not be Redirected or Resold in a manner comparable to Point-to-Point
  ✓ Network service instead provides for the integration of new network resources and permits designation or substitution with another network resource, which has the same practical effect as redirecting network service.

• Assignments and Transfers
  ✓ NT service may not be assigned or transferred except through annexation.
Application for NT Service

• Customers provide:
  – A description of Network Load at each delivery point. Including a 10 year forecast of peak Summer and Winter loads and resource needs.
  – Description of Network Resources (current and 10 year projection).
  – Detailed description of NT customer’s local distribution or transmission system.
  – Service requests may be made for up to 30-years
  – Requests for service may be shaped/profiled.
  – Signed statement that customer meets the Attestation requirements associated with the Network Resources listed in the application.
    ✓ Network Customer owns the resource or has committed to purchase a defined amount of generation from the resource.
    ✓ No portion of the Network Resource has been committed for a sale of one-year or more to a third party on a non-interruptible basis.
NT Service Agreement

- **NT Service Agreement**
  - Includes designated Network Loads and Network Resources
  - Customers typically designate sufficient resources to serve load, but they are not required to do so
  - Customers may have more Network Resources than their forecasted load
  - Requires NT customers to pay for service based on Network Load
  - Incorporates BPA tariff requirements and business practices

- **Network Operating Agreement**
  - Technical and operational requirements
  - Redispatch and Transmission Curtailment protocols
    - A transmission curtailment does not normally involve dropping Designated Network Load
    - It is an economic event where a potentially more expensive resource may be deployed
  - Emergency protocols
    - Load Shedding – if redispatch and curtailment do not provide sufficient relief.

- **Third-party sales from a Designated Network Resource must be undesignated** and the NT agreement will be updated if the undesignation is a year or longer.
Network Operating Agreement

• The Network Operating Agreement spells out the operational needs between BPA and its NT customers.

• BPA and customers agreed through the TC-20 Settlement to remove the Network Operating Agreement from Attachment G of the OATT.
  – Replace with bilateral agreements.
  – Develop a NOA template with ability to customize exhibits for each NT Customer on specific needs such as:
    • Reference to existing operational agreements
    • Other operational or Interconnection requirements
    • Special protection or relay schemes
NOA Work

• Hosted Network Operating Committee meeting April 30
  – Shared redline NOA with NT participants/representatives
• NOA comments were due May 29
• NOC Meeting June 24
  – Continue revision of NOA
• One more NOC Aug. 15
• Draft and execute NOAs for 10/1/21 Start date
Planning for NT Service

NT Dialogue

- NT Dialogue is BPA’s annual process to update NT Customers’ 10-year forecasted Network Load and Resource information

  • NT Customers are required to submit annual 10-year Network Load and Network Resource Forecasts.
  • Participation in Annual NT Dialogue meetings encouraged for those making changes to their forecasts
  • Submittal of Load and Resource changes as soon as possible – not necessary to wait for the start of the NT Dialogue.
NT Service Forecast Overview

4/22/2019

BPA initiates LaRC data request process. Templates distributed to Customers.

Customer reviews, forecast and submit LaRC data request

Did BPA or Customer Request a Forecast Review Meeting?

Yes

Schedule and hold meeting with Customer and BPA stakeholders; review forecast

No

BPA Forecast Analysis

DID Customer forecast contain Non-Federal resources or Rapid Load Growth?

No

Customer forecast accepted

Yes

Can forecast be awarded with Firm Service?

No or Partial Acceptance

Accept Forecast: Flowgate Encumbrances

Yes

Accept Forecast: Flowgate Encumbrances

NT Encumbrance Letter Sent to Customer

NT Service Options & Supplemental Dialogue

Do NT Service Options provide LTIF service for a portion of forecasted resource?

Non-Accepted portion of the forecast

Yes

Accept Forecast: Flowgate Encumbrances

No

Does NT Customer accept NT Service Option as the NT Service Plan?

Accepted portion

Yes

Accept Forecast: Flowgate Encumbrances

No

Upon offer of a study agreement, does the Customer execute and fund? (T3R must be in place)

Yes

Customer participates in System Impact Study or Cluster Study

No

T3Rs will be changed to Retracted and receive no further consideration

NT Service Options

Current options:
- Forecast Revision
- Alternate Resource Location
- Third Party Purchase
- Participate in Cluster Study

Partial or No Acceptance of Forecast
- Resolution discussion

Still in development:
- Planning Redispach
- NT Redispach

For Discussion Purposes Only

Key
- WIP: Work in progress
- AFR: Accepted forecasts (reflected in ATC Calculation)
- ENC: Encumbrance letter and commitment from BPA that the capacity will be available when the NT customer is ready to DNR

- FNR: Forecasted Network Resource
- DNR: Designated Network Resource
- TCMS: Transmission Curtailment Management Service
- LTIF: Long Term Firm
- TIPP: Transmission Integrated Planning Process
- CTP: Commercial Technical Panel
- TISP: T3R Study & Expansion Process
- CSA: Cluster Study Agreement
Managing Congestion for NT Service cont.

- During a transmission system constraint, BPA will proceed with curtailing service in accordance with the BPA Tariff and NERC Priority Codes.
- If a customer’s Secondary NT schedules are curtailed, the customer is to find alternative means for serving load or will be subject to imbalance charges.
  - SLICE and/or Block customers: subject to Energy Imbalance
  - Load Following customers: subject to a UAI under the Regional Dialogue contract provisions unless TCMS is being taken. If TCMS is being taken then the charge is reflective of the Energy Imbalance charges applied by BPA.
- To provide relief during a transmission constraint that requires curtailment, BPA will:
  - Curtail Non-Firm transmission service in order of NERC Curtailment Priority Codes (0 – 6)
  - Then if more relief is needed:
    - Curtail Firm PTP transmission service (cut Firm PTP schedules/deliveries); and
    - Perform NT Redispatch in accordance with Section 33 of the OATT to maintain NT Service to load.
    - The pro-rata allocation for firm relief is determined by calculating the firm PTP flow and the firm NT Service flow impacting the system constraint.
- NT Redispatch is performed by BPA in lieu of cutting schedules to load.
  - No etags are associated with deliveries from the Network Resources are changed.
  - The cost of NT Redispatch is built into the NT rate
## NERC Curtailment Priorities

<table>
<thead>
<tr>
<th>Priority</th>
<th>Service Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority 1 – NS</td>
<td>Redirected Firm Service — NS</td>
</tr>
<tr>
<td>Priority 2 – NH</td>
<td>Purchased Non-Firm Point-to-Point Hourly Service — NH</td>
</tr>
<tr>
<td>Priority 3 – ND</td>
<td>Non-Firm Point-to-Point Daily Service — ND</td>
</tr>
<tr>
<td>Priority 4 – NW</td>
<td>Non-Firm Point-to-Point Weekly Service — NW</td>
</tr>
<tr>
<td>Priority 5 – NM</td>
<td>Non-Firm Point-to-Point Monthly Service — NM</td>
</tr>
<tr>
<td>Priority 6 – NN/CF</td>
<td>Network Integration Transmission Service from sources not designated as network resources — NN PTP Conditional Firm</td>
</tr>
<tr>
<td>Priority 7 – F/FN</td>
<td>Firm Point-to-Point Transmission Service — F and Network Integration Transmission Service from Designated Resources — FN</td>
</tr>
</tbody>
</table>

- Firm NT and Firm PTP share the same Curtailment Priority (7).
- Non-Firm NT (Secondary Network Service) has the same curtailment priority as PTP Conditional Firm but a higher curtailment priority (6) than non-firm PTP (0 – 5).
- During a transmission constraint, BPA will redispatch Firm NT Service consistent with Section 33 of the OATT to avoid curtailment.
  - Generally, NT 7F = Redispatch, PTP 7F = Curtailment
- If curtailment is required, BPA will curtail service pro rata starting with NERC Priority Code 1
BPA’s Approach to Conversion
Proposed Conversion Principles

These proposed principles will apply to treatment of Point-to-Point (PTP) rights in consideration of potential conversion to Network Integration (NT) service.

- BPA will treat all conversion participants in a manner that is just and reasonable, and not unduly discriminatory or preferential, consistent with open access transmission service, rate schedule and Business Practice provisions.

- The customer must specify which load will be covered under conversion.

- To manage the scope of the conversion process, and in the common interest of completing the conversion process in accordance with the draft timeline, early termination of non-converted PTP rights will not be considered as part of the conversion process.

- To manage the scope of the conversion process and to establish starting parameters for planning purposes, BPA will consider long-term PTP capacity used to serve load as of April 9, 2019 to be eligible for conversion.
Proposed Conversion Principles (cont.)

- Long-term PTP capacity associated with a resource eligible for designation as of April 9, 2019, will be considered to be eligible for conversion.

- BPA will work in collaboration with customers and make reasonable efforts to accommodate needs of both parties to deliver on the conversion process commitment.

- Customers may retain existing PTP service.

- Costs associated with implementing converted service (for example, any required metering and equipment additions) will be assigned consistent with current business practices and cost allocation guidelines.

- BPA will inform eligible customers whether their current PTP transmission rights are sufficient to accommodate the NT service.
DRAFT Product Conversion Timeline

04/09/19
Customers make non-binding election

Jun ‘19 Joint Education and Individual conversations

End of Apr ‘20
Analysis substantially complete, customers indicate board recommendations

May ‘20
Initial Rates Determination

Sept ‘20
Customer / BPA Agreements executed

Oct ‘21 (FY22)
Converted service commences

03/08/19
Publish notice of interest for contract conversion

Oct ‘19 – Dec ‘19
NT Forecast prep for rates indicator

May ‘20 – Jul ‘20
New NT Customers participate in annual NT Dialogue

Jun ‘20 – Aug ‘20
Agreements put in place with customer
Billing & Rates
Components of a NT Customer Bill

The following charges will always appear on the NT bill

• **NT Service Rate:**
  – Billed monthly based on the customer’s Network Load on the hour of the Monthly Transmission System Peak Load.
  – BP-20 Initial proposal is $1.771 kw/mo

• **Scheduling, System Control and Dispatch Service Rate**
  – An Ancillary Service required to schedule the movement of power through, out of, within, or into a Control Area.
  – BP-20 Initial proposal is $.365 kw/mo

• **Reactive Supply and Voltage Control from Generation Sources (GSR)**
  – Maintain voltage levels on BPA’s transmission facilities within acceptable limits.
  – Currently the charge is zero
The following charges will appear on the NT bill if applicable

- **Regulation and Frequency Response**
  - Only customers with load in BPA’s BA.
  - Provides for the continuous balancing of resources with load and for maintaining scheduled Interconnection frequency at sixty cycles per second (60 Hz).
  - BP-20 Initial proposal is 0.49 mills per KWh

- **Operating Reserves (i.e. Spinning/Supplemental Reserves)**
  - Generating capacity available to meet system contingency.
  - Only applies to customers with resources and loads in BPA’s BA.
  - BP-20 Initial proposal is 9.53 mills per KWh-spinning
  - BP-20 Initial proposal is 8.32 mills per KWh-supplemental
  - Defaults subject to default rate

- **Energy Imbalance**
  - Energy supplied to make up difference between scheduled and actual energy delivered to load in the BPA Control Area, settled at the Mid-C index.
  - Applies to customers that schedule non-federal resources or FCRPS
  - There are three bands see rates schedule

- **Short Distance Discount**
  - A customers bill will be adjusted when the customer has a resource that is designated at a Network Resource for at least 12 months
  - Use the facilities for less than 75 circuit miles for delivery to Network Load.
  - See calculation in the rates schedule.
Power Services Considerations
Regional Dialogue

• Customers are responsible for the transmission delivery of energy from the FCRPS to their loads.

• Section 14 is the section of the Regional Dialogue Contracts that speaks to delivery.
Customers with NT Service:

For customers meeting load with a Federal system sale (Regional Dialogue contract) and holding a NT Service Agreement, BPA Power manages the resources comprising the System Sale directly with Transmission.

- NT Customers have a Federal System Sale as the Network Resource (not individual resource compromising the Federal system sale).
- BPA Power provides the more granular resource information to BPA Transmission to enable BPA Transmission to manage the transmission system.
- BPA Power designates and undesignates Network Resources comprising the System Sale.
- BPA Power provides 10 year resource forecasts
- BPA Power works directly with BPA Transmission to provide NT Redispatch, when available, at the resource level.
- When needed, BPA Power schedules non Network Resources using a subset of the NT customer’s secondary NT service provisions.

The arrangement between the applicable NT customers, BPA Power and BPA Transmission is documented in the Memorandum of Agreement for the Management of Network Integration Transmission Service for delivery of Federal Power to Network Customer Loads (Contract No. 11TX-15395) and is referred to as the NT MOA.

- The NT MOA is posted under the Network Integration (NT) Transmission Service tab.
• **Conversion from PTP to NT:**
  - BPA Power will send a letter asking for the ability to schedule on the customer’s secondary NT service for the portion of their non-SLICE load that is served by the Regional Dialogue contract (Load Following minus non-federal resources and Block).
    - Only applicable to loads within the BPA BA
    - Only applicable to non-scheduled loads, if customer agrees to provide BPA Power the ability to schedule secondary NT for their load served by Block energy then the Block delivery will become unscheduled.

• **Conversion from NT to PTP:**
  - Customer would have to schedule delivery of energy to load.
  - Requires BPA Power to provide customers with Scheduling points of receipt (PORs) associated with the Federal System Sale.
    - A within BAA system sale is not a valid long-term POR for PTP service so customer needs actual resource based Points of Receipt.
    - Regional Dialogue Section 14 provides potential protection if a curtailment occurs and the customer is curtailed because BPA provided energy at a point not identified in their initial Scheduling PORs.
  - If a Load Following customer, would need to figure out how to align the load following nature of the RD contract with the requirement to schedule under PTP.
    - Currently there are no Regional Dialogue Load Following Customers holding PTP for load service.
Things to Watch
Things to Watch

• NT Redispatch (possible future TC proceeding)
• BPs related to NT Service
• TC-20 Updates
• Hourly Firm activities
• ATC Updates

• Reference Materials
  – NT BP
  – OATT: TC-20 OATT
  – NT Attestation: Network Resource Designation Form
  – NT MOA: Memorandum of Agreement
Questions?

Please provide comments/questions to your Transmission AE