Transmission Service Request (TSR) Evaluation

BPA Transmission Business Practice

Version 5

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Version 4

This business practice describes the methods used to evaluate the impacts (including *de minimis* criteria) of Transmission Service Requests (TSRs) and/or Network Integration (NT) Transmission Service forecasts.

For more information, visit the BPA Transmission Business Practices webpage or submit questions to techforum@bpa.gov.

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A. Impacts of Long-Term TSRs and Network Integration Forecasted TSRs

1. Long-Term TSRs with a Completed Application and Forecasted Network Resource TSRs (FTSR) will be evaluated by determining the impact the transaction has on each Long-Term Constraint (comprised of 1:1 paths and flow-based paths) as described below:
    a. Long-Term TSRs and FTSRs, referred to in this business practice as "TSR/FTSRs," may impact several Long-Term Constraints.
    b. The impact of a TSR/FTSR on a 1:1 path is equal to the requested capacity, except for Redirect TSRs where the Original reservation already encumbers the Reserved Capacity on the impacted 1:1 path, in which case the impact is 0 MW.
    c. The impact of a TSR/FTSR on a flow-based path is determined via PTDF calculations described below, which reflect how a TSR/FTSR will flow across the Long-Term Constraints.
        i. BPA further evaluates each Long-Term TSR to determine whether the PTDF calculated impact is an appropriate reflection of the impact to the transmission system.
            1. If PTDF impacts are not an appropriate reflection of anticipated impacts, BPA may determine the impact using a power flow assessment.

2. Power Transfer Distribution Factor (PTDF) calculations are prepared for each Long-Term TSR/FTSR submitted to BPA, to determine the impacts of the transaction, according to the following matrix:

	TSR/Forecast Type		Evaluated Source	Evaluated Sink
a.	Original PTP		Requested Source	Requested Sink
b.	NT (for service to New Network Load from a non-wind resource)		Requested Source	Requested Sink
c.	NT (for service to New Network Load from a wind resource)[1]		(A) Requested Source	(A) Requested Sink
			(X) FCRPS	(X) Requested Sink
d.	PTP Redirect[2]		(A) Requested Source	(A) Requested Sink
			(B) Existing Source	(B) Existing Sink
e.	NT (for service to existing Network Load from a non-wind resource)		Requested Source	Displaced Designated Network Resource[3] or FCRPS
f.	NT (for service to existing Network Load from an existing non- wind designated Network Resource through a new Transfer POD on BPA's system)		Existing Sink	Requested Sink
g.	NT (for service to existing Network Load from a wind resource or an NT forecasted resource)[4]		(A) Requested Source	(A) Requested Sink
			(B) Displaced Designated Network Resource[3] or FCRPS	(B) Requested Sink
h.	Deferral or Renewal Competition[2]		(A) Challenger's Requested Source[5]	(A) Challenger's Requested Sink
			(B) Defender's Requested Source[5]	(B) Defender's Requested Sink

[1] The impact to each flow-based path is deemed to be the larger of either the Path (A) or Path (X) impacts.

[2] Impacts of Path (B) are subtracted from the impacts of Path (A) = (A-B).

[3] If no Displaced Designated Network Resource is identified in the customer comment field of the TSR/FTSR, BPA will assume FCRPS generation is being displaced.

[4] The incremental impact to each flow-based path is the larger of either the Path (A) or Path (B) impacts minus the impacts of Path (B) = (A or B) – B = (A-B) or 0 MW, whichever is larger.

[5] If the Source is associated with a wind resource designated as a Network Resource, the impact to each flow-based path is determined by using either the requested Source or FCRPS, whichever results in the largest impact.

3. A Long-Term TSR/FTSR will be granted if:
    a. Any non-*de minimis* impacts to flow-based paths in the Long-Term (beyond 13 months) horizon can be accommodated without upgrades as determined by a commercial powerflow assessment;
    b. There is sufficient capacity to accommodate any non-*de minimis* impacts to flow-based paths in the Short-Term (0-13 month) horizon;
    c. There is sufficient capacity to accommodate any impacts to a 1:1 path in the Long-Term horizon; and
    d. No reliability, sub-grid, or local area issue(s) are identified.
4. When a Long-Term TSR/FTSR cannot be granted, the transaction will remain in the Long-Term pending queue until:
    a. The TSR is WITHDRAWN by the Customer; or
    b. The TSR status has been updated by BPA per the applicable business practice.
5. When a Long-Term TSR/FTSR is CONFIRMED:
    a. BPA incorporates the TSR/FTSR into future commercial powerflow studies as firm rights.
        i. BPA decrements capacity by any non-*de minimis* impacts on flow-based impacts in the Short-Term horizon and/or 1:1 path(s) in the Short-Term and Long-Term horizons.
6. NT behind the meter generation:
    a. When all of the energy produced by such generation is dedicated to serving the Load Serving Entity's load on the load side of BPA's POD meter, a NT TSR is not required and the generation behind the meter is deemed to have no Long-Term BPA Constraint impacts.
    b. When only a portion of the energy produced by such generation is dedicated to serving the Load Serving Entity's load on the load side of BPA's POD meter:
        i. The NT TSR for the portion of the energy produced that is dedicated to serve the Load Serving Entity's load on the load side of BPA's POD meter will be deemed to have no Long-Term BPA Constraint impacts; and
        ii. The NT TSR for the portion of the energy produced that is used for delivery outside of the Load Serving Entity's system will be assessed using the relevant methodology in Section A.4.

B. Long-Term *De Minimis* Impacts

1. All Long-Term TSR/FTSRs will be evaluated to determine if such transaction has a *de minimis* impact on one or more of the flow-based paths.
    a. Test 1: The positive net impact on the flow-based path is less than or equal to 10 MW and the PTDF of the impacted path is less than or equal to 10 percent.
        i. If the impact(s) is deemed *de minimis,* it will be treated as equal to zero in determining the net impacts.

b. Test 2: The positive net impact on the flow-based path is less than or equal to 10 MW and the existing impact divided by the requested impact is greater than or equal to 80 percent.

Table 1: *De Minimis* Impact Criteria A Long-Term TSR/ FTSR must pass one of the following tests to be considered *de minimis.*	
Definitions	A = 0 MW or non-*de minimis* positive impact of new TSR/FTSR If A <= 10 MW & PTDF Calculation$_A$ <= 0.1000, A is treated as a zero in the determination of the net impact. B = 0 MW or non-*de minimis* positive impact of original reservation or encumbrance, if any If B <= 10 MW & PTDF Calculation$_B$ <= 0.1000, B is treated as a zero in the determination of the net impact (A – B) = Net impact PTDF Calculation$_A$ = flow-based path PTDF associated with Source/Sink of new TSR/FTSR PTDF Calculation$_B$ = flow-based path PTDF associated with Source/Sink of original TSR/FTSR
Test 1	(A – B) ≤ 10 MW AND PTDF Calculation$_A$≤ 0.1000
Test 2	(A – B) ≤ 10 MW AND (B ÷ A) ≥ 0.8000, for non-zero A values

2. Rounding rule calculations:
   a. Except as provided in Section B.2.b and B.2.c, below, if a Long-Term TSR/FTSR has a net impact to any flow-based path of between 0.001 MW and 0.9999 MW, BPA will deem such impact to be equal to 1 MW.
   b. BPA may deem a Long-Term TSR/FTSR with an impact between 0.0001 MW and 0.5 MW equal to 0 MW if the Customer can demonstrate the following in writing:
      i. The transaction is either related to transmission of the output of a specific Generating Facility and the MW demand of the Long-Term TSR/FTSR fully covers the Generating Facility Capacity, **or**
      ii. The transaction is for the total amount of the Power Purchase Agreement; **and** there have been no other purchases from the same seller or the specific Generating Facility in the past 12 months.
   c. Customers must submit a request to have the impact of a TSR/FTSR deemed as 0 MW with demonstration materials to their assigned Transmission Account Executive. Demonstration materials may include any of the following that

identifies the maximum output of the facility, including all future phases of development, associated with the Long-Term TSR/FTSR:

i. LGIA or SGIA documentation.

ii. State energy facility siting documentation.

iii. Documentation provided to local governmental entities with permitting or siting authority.

iv. Balancing Area Service Agreement documents.

v. Other documentation BPA determines is sufficient.

3. Other considerations when requesting NT Transmission Service:

   a. A net positive impact will be considered *de minimis*, regardless of whether the PTDF of the impacted path is greater than 10 percent, if it is less than or equal to 10 MW for the following:

      i. For TSRs to Designate Network Resources intended to serve network load encumbered via a CONFIRMED FTSR.

      ii. For TSRs determined to be Above Rate Period High Water Mark Load in accordance with the Regional Dialogue power sales agreement.

      iii. For TSRs to serve Network Load growth for NT Customers that do not have a Regional Dialogue power sales agreement.

   b. This *de minimis* consideration will not be applied to any additional TSRs submitted within a 12 month period by the same Customer with the same Source and contract number as a TSR already submitted by that Customer.

C. Impacts of Short-Term TSRs

1. Short-Term TSRs are evaluated by determining the impact the TSR has on each Short-Term BPA Constraint (comprised of 1:1 paths and flow-based paths) as described in this section. See BPA's ATCID for a list of 1:1 paths and flow-based paths.
2. All TSRs for Short-Term products enter a common queue and are evaluated in queue order, except TSRs submitted within five (5) minutes of a given market opening (as explained in the Simultaneous Submission Window Processing Business Practice).
3. Evaluations are performed considering the impacts of all prior queued TSRs and reservations (including Long-Term). Prior TSRs that are still pending are deducted from ATC when evaluating later queued TSRs.
4. Except where noted, the evaluation process for Short-Term TSRs is the same for Firm and Non-Firm alike.
5. Evaluations are performed against Short-Term ATC as calculated according to the ATC Implementation Document.

   a. All Short-Term Firm TSRs are evaluated against the same Short-Term Firm ATC value.

   b. Short-Term Non-Firm TSRs are evaluated against a separate Non-Firm ATC value corresponding to the priority of the TSR (priority 1-6) as shown below.

Transmission Service	Priority	ATC Value
Secondary Network	6-NN	RATC6
Monthly Non-Firm PTP	5-NM	RATC5
Weekly Non-Firm PTP	4-NW	RATC4
Daily Non-Firm PTP	3-ND	RATC3
Hourly Non-Firm PTP	2-NH	RATC2
Non-Firm Secondary Hourly PTP	1-NS	RATC1

6. Upon submittal, each Short-Term TSR is verified to ensure that it represents a valid TSR. See Section I of the Requesting Transmission Service Business Practice for a list of reasons a TSR may be denied. A Short-Term TSR that is denied for these reasons will receive no further consideration.
7. A Short-Term TSR that has been deemed valid then undergoes two separate evaluations: a flow-based congestion evaluation and an ATC evaluation.
8. Both the flow-based congestion evaluation and ATC evaluation are based on initially determining the ATC impact of the Short-Term TSR on each BPA Short-Term ATC Path as follows:
    a. The impact on 1:1 paths is simply the MW requested on the Short-Term TSR.
    b. The impact on flow-based paths is determined using PTDF analysis according to the following formula.

$$\textbf{MW impact} = (POR_{PTDF} - POD_{PTDF}) * \textbf{TSR Demand}$$

9. For flow-based paths, PTDF calculations are prepared for each Short-Term TSR to determine the impacts of the TSR according to the following matrix:

	Short-Term TSR Type		Evaluated POR	Evaluated POD
a.	Original Firm or Non-Firm PTP		Requested POR	Requested POD
b.	PTP Firm Redirect[1]		(A) Requested POR	(A) Requested POD
			(B) Existing POR	(B) Existing POD
c.	Non-Firm Secondary Hourly PTP[2]		Requested POR	Requested POD
d.	Firm or Non-Firm NT		Requested POR	Requested POD
e.	Resale[3]		Not Applicable	Not Applicable
	Short-Term TSR Type		**Evaluated POR**	**Evaluated POD**
f.	Relinquish[3]		Not Applicable	Not Applicable

[1] Firm Redirects are credited with capacity from the Firm existing reservation also referred to as the Parent Reservation on common flow-based paths. Impacts of Path (B) are subtracted from the impacts of Path (A) = (A-B). Note: this action is also applied to Redirect TSRs on 1:1 paths.

[2] Non-Firm Secondary Hourly PTP are not credited with capacity from the Firm Parent Reservation.

[3] There is no ATC evaluation for Resale or Relinquish requests since there is no award of new ATC for either TSR type.

10. All Short-Term TSRs are subject to a flow-based congestion evaluation based on the calculated TSR impacts. The purpose is to ensure that the impacts of the TSR do not exacerbate congestion across BPA's Short-Term flow-based paths. When enabled, this evaluation is performed for all Short-Term transmission services (including Non-Firm hourly products), as described in Section E of this business practice.
11. ATC evaluations are performed for all Short-Term transmission services, with the exception that the ATC evaluation is not performed on the flow-based paths for Non-Firm Hourly PTP and NT and for Non-Firm Secondary Hourly PTP.
12. For evaluation of flow-based paths, the first step of the ATC evaluation is to determine whether the calculated impact of the TSR meets the criteria to be deemed *de minimis* across any flow-based path (see Section D of this business practice for the Short-Term *de minimis* criteria). TSRs deemed to be *de minimis* across a flow-based path do not require ATC for that flow-based path.
13. For evaluation of any Firm Redirect not considered *de minimis*, the ATC evaluation credits the Redirect with capacity available from the Firm Parent Reservation on any flow-based paths held in common between the Parent Reservation and the Redirect. ATC is needed on any flow-based path in which the Redirect impact is positive and exceeds the rights held on the Parent Reservation (i.e., the net impact of the Redirect is also positive).

14. The ATC evaluation is performed individually for each BPA Short-Term ATC path (exceptions noted in Section C.11) and a composite result is determined. The composite result of the ATC evaluation will pass for a given Short-Term TSR if all of the BPA Short-Term ATC paths meet any one of the following conditions for the time period requested:
    a. An Original or Redirect TSR has zero impact or provides counterflow (negative impact).
    b. An Original or Redirect TSR is deemed to have a *de minimis* impact under Test 1 (see Section D of this business practice).
    c. An Original or Non-Firm Secondary Hourly PTP TSR is deemed to have a non-*de minimis* impact under Test 1, but sufficient ATC is available to accommodate the impact.
    d. A Firm Redirect TSR has a net impact less than or equal to zero because the impact of the Redirect is fully credited by the Parent Reservation.
    e. A Firm Redirect TSR is deemed non-*de minimis* under Test 1, but sufficient ATC is available to accommodate the incremental impact of the Redirect.
15. The composite result of the ATC evaluation will fail for a given Short-Term TSR if one of the following conditions is true for any of the BPA Short-Term ATC paths for the time period requested:
    a. An Original or Non-Firm Secondary Hourly PTP TSR is deemed to have a non-*de minimis* impact under Test 1, and sufficient ATC is not available to accommodate the impact.
    b. A Firm Redirect TSR is deemed to have a non-*de minimis* impact under Test 1, and sufficient ATC is not available to accommodate the incremental impact of the Redirect.
16. If the flow-based congestion evaluation passes, but the ATC evaluation fails for any Short-Term TSR, then an attempt will be made to meet the deficient ATC needs through the Preemption of Short-Term Transmission Service Business Practice.
    a. There is no assurance that the preemption process will result in sufficient ATC to grant a full offer or even a partial offer of service.
17. A Short-Term TSR will be granted in full (ACCEPTED on OASIS) if:
    a. The flow-based congestion evaluation passes for all BPA Short-Term ATC paths and one of the following:
        i. The ATC evaluation passes for all BPA Short-Term ATC paths.
        ii. The ATC evaluation fails for one or more BPA Short-Term ATC paths, but sufficient ATC is made available through the Preemption process for a full offer.
        iii. The ATC evaluation is not performed according to Section C.11.

18. A short-term TSR will be granted in part (COUNTEROFFER on OASIS) if:
    a. The flow-based congestion evaluation passes for all BPA Short-Term ATC paths; and
    b. The ATC evaluation fails for one or more BPA Short-Term ATC paths, but sufficient ATC is available (through Preemption or otherwise) to grant at least partial service across all BPA Short-Term ATC paths.
19. A Short-Term TSR will be denied (REFUSED on OASIS) and receive no further consideration if:
    a. The flow-based congestion evaluation fails for any BPA Short-Term ATC path; or
    b. The ATC evaluation fails for one or more BPA Short-Term ATC paths and insufficient ATC is available (through Preemption or otherwise) to grant any service on at least one BPA Short-Term ATC path.
20. When a Short-Term TSR is CONFIRMED:
    a. The *de minimis* and non-*de minimis* impacts of the TSR are accounted for in BPA's ST ATC for BPA Short-Term ATC paths per the ATC Implementation Document; and
    b. *De minimis* impacts are accumulated and reported in a running total by BPA Short-Term ATC path and by time.

D. Short-Term *De Minimis* Impacts

1. All Short-Term TSRs that impact flow-based paths will be evaluated to determine if such transaction has a *de minimis* impact on one or more of the flow-based paths it impacts.
    a. No *de minimis* tests are applied if the calculated impact on a flow-based path is less than or equal to zero, as no ATC is required for that flow-based path.
    b. The same *de minimis* criteria is used for Short-Term ATC evaluations (Section C) and flow-based congestion evaluations (Section E).
2. Test 1 is applied the same to Firm and Non-Firm Original TSRs, Firm Redirects, and Non-Firm Secondary Hourly PTP alike. When evaluating Redirects under *de minimis* Test 1, the impact of the Redirect is considered on its own without regard for the impact of the Parent Reservation. In other words, the *de minimis* criteria is not applied to the rights held on the Redirect that exceeds the rights held on the Parent Reservation (i.e., the net impact).
3. BPA will maintain a cumulative total of all *de minimis* impacts granted across each BPA Short-Term ATC path. BPA does not use the cumulative *de minimis* impacts to deny TSRs.

4. Table 2 summarizes the *de minimis* test.
    a. (Test 1) The positive impact on the flow-based path is less than or equal to 10 MW and less than or equal to 10 percent of the requested demand.

Table 2: Short-Term *De Minimis* Impact Criteria A Short-Term TSR must pass the following test to be considered *de minimis.*	
Definitions	A = 0 MW or positive flow-based path MW impact of new Original or Redirect TSR PUF_A = (POR_{PTDF} – POD_{PTDF}) of TSR A
Test 1	A ≤ 10 MW AND PUF_A ≤ 0.100

E. Flow-Based Congestion Evaluation

1. BPA may deny TSRs, including Redirects, for a specified affected flow-based path for hours in which BPA forecasts or experiences congestion where such TSRs have an impact requiring ATC on the affected flow-based path. Flow-based Congestion evaluation, implemented through Transmission Loading Relief (TLR) Avoidance, enables BPA to restrict granting TSRs to mitigate congestion on flow-based paths. When used, TLR Avoidance applies to all Short-Term products (Monthly, Weekly, Daily, and Hourly). TLR Avoidance can be enabled independently for Firm, Non-Firm, or enabled for both.
2. To minimize the number of new TSRs that are approved when it is anticipated that congestion will cause the capacity on any flow-based path to exceed the limits, a congestion event will be declared.
3. During a congestion event, BPA will activate the flow-based congestion evaluation through a validation for the impacted flow-based path(s) and impacted hour(s) for new TSRs.
4. BPA will post the implementation and status of the validation for the impacted flow-based path(s) on OASIS at http://www.oasis.oati.com.
    a. To view the posting, click on the Message selection under the Notices menu, select BPAT in the Provider field and CURTAILMENT in the Category field and select the time period on the Message filter.
    b. Customers can sign up to receive notification of the postings on the OASIS website at Misc, Alarm Preferences. Search for the Curtailment option under the Message Alarms grouping.
5. When the flow-based congestion evaluation is activated for Firm or Non-Firm:
    a. ATC posted in SysData on OASIS for the impacted flow-based path(s) will be changed to zero during the impacted hour(s).
    b. New TSRs will be evaluated for ATC impacts on the impacted flow-based path(s) according to Section C of this business practice.
    c. New TSRs that do not request MW over the impacted flow-based path(s) or during the impacted hour(s) will pass the flow-based congestion evaluation.

d. New resales and new loss returns on the impacted flow-based path(s) during the impacted hour(s) will pass the flow-based congestion evaluation.

e. New TSRs which have either a *de minimis* impact or a negative impact (counterflow) on the impacted flow-based path(s) during the impacted hour(s) will pass the flow-based congestion evaluation.

f. New Firm Original TSRs that have a positive non-*de minimis* impact on flow-based path(s) during the impacted hour(s) will fail the flow-based congestion evaluation.

g. New Non-Firm Original and Non-Firm Secondary Hourly PTP TSRs that have a positive non-*de minimis* impact on flow-based path(s) during the impacted hour(s) will fail the flow-based congestion evaluation.

h. New Firm Redirect TSRs will fail the flow-based congestion evaluation if the Firm Redirect has a greater ATC impact than the Firm Parent Reservation on the impacted flow-based path(s) during the impacted hour(s).

i. New TSRs that fail the flow-based congestion evaluation will be REFUSED with an error message “TLR is unavailable” in the Seller Comments field.

    i. New TSRs that fail the flow-based congestion evaluation will not be evaluated for counteroffers.

    ii. New Redirect TSRs will be evaluated on the redirected path only.

6. When the congestion event has been resolved, the flow-based congestion evaluation will be turned off and new TSRs will be processed according to standard procedures.