

ISSUE #35: *DE MINIMIS*

De Minimis Customer Update

- Per customer request, BPA drafted some examples of the possible alternatives for short-term *de minimis* redirects.
- We will begin our discussion with the *de minimis* policy objective and decision criteria that will later be used to evaluate against the alternatives.
- For reference, BPA discussed the *de minimis* policy alternatives with customers at the January 28 customer workshop and again at the Webinar held Feb 6, 2020.
- BPA has posted responses to customer concerns around documentation and implementation of the *de minimis* policy.
- None of this material is meant to represent a predetermination of the merits of any particular alternative.

De Minimis Objective

The objective is to ensure the *de minimis* policy aligns with our tariff, business practices, and internal processes and systems for both the short-term and long-term markets. This will allow us to meet transmission customer needs more efficiently and responsively.

Agency Strategy

BPA's 2018–2023
STRATEGIC GOALS
DELIVERING ON OUR PUBLIC RESPONSIBILITIES THROUGH A COMMERCIALY SUCCESSFUL BUSINESS

- #1 STRENGTHEN FINANCIAL HEALTH**
 Improve cost-management discipline, build financial resiliency and maintain strong credit ratings.
- #2 MODERNIZE ASSETS & SYSTEM OPERATIONS**
 Administer an industry-leading asset management program; modernize federal power and transmission system operations to leverage market and technology developments.
- #3 PROVIDE COMPETITIVE POWER PRODUCTS & SERVICES**
 Increase revenues; align the region around a durable and financially sustainable fish and wildlife plan; align energy efficiency investments with long-term needs; achieve a modernized Columbia River Treaty.
- #4 MEET TRANSMISSION CUSTOMER NEEDS EFFICIENTLY & RESPONSIVELY**
 Make more flexible, scalable, economical and operationally efficient transmission investments; support efficient regional resource development; streamline processes; standardize products and services.

Transmission Business Model

WE ENERGIZE THE PACIFIC NORTHWEST

Transmission Value Proposition

- Operating a High Performing Grid
- Enabling Economic Growth in the Region
- Providing Access to Federal and Non-Federal Resources And Markets

Through Excellence

- Product Portfolio** Providing standardized options
Value-based price profiles
Drawing from integrated regional planning
- Infrastructure** Advanced situational awareness
Right-sized investments in assets
Value and risk-based asset management
- Long-Term Viability** Integrated and efficient processes
Data-driven decision making
Innovation and continuous improvement

A Dependable and Responsive Business Partner

De Minimis Action Plan

- To achieve our objective of ensuring the *de minimis* policy aligns with our tariff, business practices, and internal processes and systems for both the short-term and long-term markets, respectively.



- 1) Continue down the path of engaging customers at workshops to explore *de minimis* policy alternatives for ST market.
- 2) Simultaneously, continue internally working on a full-scale clean-up effort to meet our end-goal objective. This includes beginning a work stream to assess *de minimis* policy for LT market.
- 3) Bonneville will continue its current implementation of the De Minimis Policy as an interim step during the customer engagement process.
- 4) Bring it all together!

De Minimis Decision Criteria

The decision criteria will be used later to evaluate against each of the *de minimis* alternatives to inform decision-making.

1. Impact on customer access to firm ST service (better, worse, same).
2. Impact on reliability (better, worse, same).
3. Consistent with BPA's statutory, regulatory, and contractual obligations.
4. Alignment with *pro forma* tariff to the extent practical.
5. Cost of implementation and maintenance.

Summary of *De Minimis* Current Implementation

Request Type	Test	Criteria	ST	LT
Original and Redirect	Test 1	Flowgate MW Impact \leq 10MW AND $(POR_{PTDF} - POD_{PTDF}) \leq 10\%$	Yes	Yes
Redirect Only	Test 2	Redirect MW Impact – Parent MW Impact \leq 10MW AND $(Parent_{PUF} \div Redirect_{PUF}) \geq 80\%$	No	Yes

- PUF (Path Utilization Factor) = Request POR_{PTDF} – Request POD_{PTDF}
- Test 1 is applied equally to Original and Redirect requests in both the short-term and long-term, respectively.

LT and ST Redirect Requests

- Risk associated with *de minimis* is correlated to volume
- BPA wanted to share with customers how the volume of redirect requests differs from the long-term to the short-term markets, respectively.
- Time Period Covered
 - February 2019 through February 2020
 - Long-Term Redirect Requests – 260
 - Short-Term Redirect Requests – 364,535
 - These are all redirect requests for both time horizons
 - No filters applied to the data
 - Includes invalid, withdrawn and annulled requests

Summary of *De Minimis* Alternatives for ST

Alternative	De Minimis Test 2
Alt. 1 Current Implementation	No. Do NOT apply test two to short-term redirects.
Alt. 2 Align ST with LT policy	Yes. Apply long-term test two to short-term redirects. Long-term test two is the ratio between the parent PTDF and the redirect PTDF. The threshold is >80%
Alt. 3 Same as Alt 2, but establish a different threshold for ST redirects	Yes. Establish a new threshold to apply test two to short-term redirects. For example, apply 90% instead of 80% threshold to short-term redirects.
Alt. 4 Establish new test two for ST redirects based on net PTDF difference	Yes, but different from current long-term test two for redirects. For example, compare net PTDF difference (redirect PTDF – parent PTDF) against a newly established percentage threshold (e.g., 5%).
Alt. 5 Another way to manage the amount of TSRs granted as de minimis impact	Yes. This is complementary to all alternatives except status quo. For example, we would grant TSRs up to a ceiling amount, without reducing ATC, until the cumulative amount of impact of de minimis TSRs adds up to some accommodation threshold (e.g., 50 MW).

Alternative 1

Test 1

- Current Implementation
- No redirect Test 2

A: $MW\ Impact \leq 10MW$
 AND
 B: $(POR_{PTDF} - POD_{PTDF}) \leq 10\%_{PUF}$

Example using 10MW TSR

Request Type	New Request			Parent			Net Impact (Redirect MW - Parent MW)	Test 1		Result	Comment
	POR/POD	PUF	MW	POR/POD	PUF	MW		Criteria A (<= 10MW)	Criteria B (<= 10%)		
Original	BC.US.Border to BigEddy	0.2395	2.395	NA	NA	NA	NA	Pass 2.395 < 10MW	Fail .2395 > 10%	Fail	Not considered de minimis as it fails criteria B of Test 1.

Summary: An original or redirect request must pass both criteria A and B to be considered de minimis under Test 1.

Examples using 100MW TSRs

Request Type	New Request			Parent			Net Impact (Redirect MW - Parent MW)	Test 1		Result	Comment
	POR/POD	PUF	MW	POR/POD	PUF	MW		Criteria A (<= 10MW)	Criteria B (<= 10%)		
Original	BPAPower to Franklin	0.0714	7.14	NA	NA	NA	NA	Pass 7.14 <= 10MW	Pass .0714 <= 10%	Pass	Original is de minimis, so it is accepted.
Redirect	BPAPower to Franklin	0.0714	7.14	BC.US.Border to JohnDay	0.2276	22.76	-15.62MW	Pass 7.14 <= 10MW	Pass .0714 <= 10%	Pass	The redirect is also accepted under the very same de minimis rules as the original.

Summary: The de minimis rules are applied equally to original and redirect requests. Both requests are considered de minimis under Test 1.

Alternative 1 continued

Examples using 100MW TSRs

Request Type	New Request			Parent			Net Impact (Redirect MW - Parent MW)	Test 1		Result	Comment
	POR/POD	PUF	MW	POR/POD	PUF	MW		Criteria A (<= 10MW)	Criteria B (<= 10%)		
Original	BC.US.Border to JohnDay	0.2276	22.76	NA	NA	NA	NA	Fail 22.76 > 10MW	Fail .2276 > 10%	Fail	Original is not de minimis, so rejected.
Redirect	BC.US.Border to JohnDay	0.2276	22.76	BC.US.Border to BigEddy	0.2395	23.95	-1.19MW	Fail 22.76 > 10MW	Fail .2276 > 10%	Pass	Redirect is also not de minimis per Test 1, but it is accepted because the redirect needs less capacity than the parent already holds (ie, Net Impact is negative).

Summary: Both requests fail de minimis Test 1. Where original requests fail, redirects can leverage parent capacity in some cases to get requests granted. Here, the parent rights fully cover the redirect capacity needs.

Request Type	New Request			Parent			Net Impact (Redirect MW - Parent MW)	Test 1		Result	Comment
	POR/POD	PUF	MW	POR/POD	PUF	MW		Criteria A (<= 10MW)	Criteria B (<= 10%)		
Original	BC.US.Border to BigEddy	0.2395	23.95	NA	NA	NA	NA	Fail 23.95 > 10MW	Fail .2395 > 10%	Fail	Original is not de minimis, so rejected.
Redirect	BC.US.Border to BigEddy	0.2395	23.95	BC.US.Border to JohnDay	0.2276	22.76	1.19MW	Fail 23.95 > 10MW	Fail .2395 > 10%	Fail	Redirect is not de minimis per Test 1 and needs more capacity than the parent holds (ie, Net Impact is positive). There is no de minimis Test 2 applied to the Net Impact.

Summary: Here, the parent rights do not fully cover the redirect capacity needs. The redirect needs ATC. If ATC is unavailable, a short-term redirect would fail. A long-term redirect would pass under Test 2.

Alternative 2

- Adopt the same criteria as Test 2 as in the LT

A: Redirect MW Impact – Parent MW Impact \leq 10MW

AND

B: $(\text{Parent}_{\text{PUF}} \div \text{Redirect}_{\text{PUF}}) \geq 80\%_{\text{PUF}}$

- Adopt the same 80% threshold as in the LT
- One goal in this alternative is consistency between ST and LT

Examples using 100MW TSRs

Redirect4		Parent		Criteria A	Criteria B (Threshold 80%)	Result
MW	PUF	MW	PUF			
20	0.20	15	0.15	20 – 15 = 5MW (does meet \leq 10MW)	0.15 \div 0.20 = 0.75 (does not meet \geq 80%)	Fail
61	0.61	52	0.52	61 – 52 = 9MW (does meet \leq 10MW)	0.52 \div 0.61 = 0.85 (does meet \geq 80%)	Pass

Alternative 3

- Criteria is the same as Alt 2 but with different threshold

A: Redirect MW Impact – Parent MW Impact \leq 10MW

AND

B: $(\text{Parent}_{\text{PUF}} \div \text{Redirect}_{\text{PUF}}) \geq \text{Threshold}_{\text{PUF}}$

- Threshold may differ between ST and LT (not necessarily 80% ST)
- No specific ST threshold has been considered at this time

Examples using 100MW TSRs with thresholds of 75% and 85% for illustration.

Redirect4		Parent		Criteria A	Criteria B (Threshold 85%)	Result
MW	PUF	MW	PUF			
20	0.20	15	0.15	20 – 15 = 5MW (does meet \leq 10MW)	0.15 \div 0.20 = 0.75 (does not meet \geq 85%)	Fail

Redirect4		Parent		Criteria A	Criteria B (Threshold 75%)	Result
MW	PUF	MW	PUF			
44	0.44	34	0.34	44 – 34 = 10MW (does meet \leq 10MW)	0.34 \div 0.44 = 0.77 (does meet \geq 75%)	Pass

Alternative 4

- Uses a different criteria B than Alternatives 2 and 3

A: Redirect MW Impact – Parent MW Impact ≤ 10MW

AND

B: (Redirect_{PUF} – Parent_{PUF}) ≤ **Threshold_{PUF}**

- Uses a delta of PUF impacts between parent and Redirect, rather than a ratio.
- A specific threshold has not been considered.

Examples using 100MW TSRs with differential threshold of 5% for illustration.

Redirect4		Parent		Criteria A	Criteria B (Threshold 5%)	Result
MW	PUF	MW	PUF			
20	0.20	15	0.15	20 – 15 = 5MW (does meet ≤ 10MW)	0.20 - 0.15 = 0.05 (does meet ≤ 5%)	Pass
61	0.61	52	0.52	61 – 52 = 9MW (does meet ≤ 10MW)	0.61 - 0.52 = 0.09 (does not meet ≤ 5%)	Fail

Alternatives 2 and 3 Ratio Test

- The Test 2 *de minimis* criteria is an allowance for how much the impact of a Redirect request can exceed existing parent rights on a constrained flowgate and still have service granted on that flowgate.
- Alternatives 2 and 3 use a ratio of parent to redirect impacts to determine this allowance.
- This approach provides a bigger allowance the larger the existing parent rights are.

Examples using 100MW TSRs with a Test 2 ratio of 80% from Alternative 2.

Examples	1	2	3	4
Parent _{PUF}	.16	.24	.32	.40
Redirect _{PUF}	.20	.30	.40	.50
Ratio (Parent _{PUF} ÷ Redirect _{PUF})	.16 ÷ .20 = 80%	.24 ÷ .30 = 80%	.32 ÷ .40 = 80%	.40 ÷ .50 = 80%
<i>De minimis Impact</i> (Allowance) (Redirect _{PUF} - Parent _{PUF})*Demand	(.20 - .16)*100 = 4MW	(.30 - .24)*100 = 6MW	(.40 - .32)*100 = 8MW	(.50 - .40)*100 = 10MW

- All of the examples have the same Test 2 ratio of 80%. But the parent with 40MW impact is allowed a redirect of 50MW (a 10MW *de minimis* allowance) compared to a parent of 16MW that only has a 4MW allowance (to support a 20MW Redirect).

Compare Alternatives 2,3 and 4

- Whereas the ratio test for Alternatives 2 and 3 provide a *de minimis* allowance that will vary depending on the existing parent rights, Alternative 4 provides a *de minimis* allowance that is fixed. It is the same allowance regardless of the rights held by the parent TSR.

Examples using 100MW TSRs with a ratio of 80% compared to a delta threshold of 5%.

Redirect		Parent		Net MW (Redirect - Parent)	Alternative 2		Alternative 4	
MW	PUF	MW	PUF		Criteria B (Ratio 80%)	Result	Criteria B (Delta 5%)	Result
20	0.20	15	0.15	20 - 15 = 5MW	0.15 ÷ 0.20 = 0.75 (does not meet ≥ 80%)	Fail	0.20 - 0.15 = 0.05 (does meet ≤ 5%)	Pass
61	0.61	52	0.52	61 - 52 = 9MW	0.52 ÷ 0.61 = 0.85 (does meet ≥ 80%)	Pass	0.61 - 0.52 = 0.09 (does not meet ≤ 5%)	Fail

- Note that the ratio test for Alternatives 2 and 3 results in the granting of a Redirect that exceeds the parent by 9MW (row 1), while at the same time refusing another Redirect that exceeds the parent by only 5MW (row 2).
- Alternative 4 results in the opposite results. Both are allowed a fixed 5% *de minimis* impact allowance (ie, 5MW). Row 1 meets this criteria, but row 2 does not.

Alternative 5

- Alternatives 2, 3, and 4 provide a criteria by which a given Redirect request may be granted, permitting a *de minimis* impact on a constrained flowgate. However, there is no limit placed on the number of such *de minimis* allowances granted under these alternatives. Over time, the accumulation of individual *de minimis* impacts may result in a significant impact.
- Alternative 5 may address this situation by setting an upper limit on the cumulative *de minimis* impacts. It is not a standalone alternative, but one that may be used in conjunction with Alternatives 2, 3, or 4.

Example using Alternative 2 with 100MW Redirects and a 35MW *de minimis* limit for a given flowgate.

Redirect PUF	Parent PUF	Test 2 Ratio	De minimis Impact	Cumulative DM Impact	Result
.43	.35	0.81	8MW	8MW	Pass
.61	.52	0.85	9MW	17MW	Pass
.32	.27	0.84	5MW	22MW	Pass
.60	.50	0.83	10MW	32MW	Pass
.16	.20	.80	4MW	36MW	Fail

The 5th TSR is refused once the 35MW limit is reached, even though this Redirect does pass the *de minimis* criteria by itself.

It would work like this:

1. Select Alternative 2, 3, or 4 for Test 2.
2. Set an MW *de minimis* limit for each network flowgate.
3. Evaluate Original and Redirects according to *de minimis* policy. If Test 1 or Test 2 passes, determine the *de minimis* impact of that TSR.
4. Accumulate these *de minimis* impacts.
5. Stop accepting new *de minimis* impacts once the limit is reached for a given flowgate.

Next Steps

- BPA will notify customers via tech forum of the next customer workshop when *de minimis* will be discussed.
- Contact your AE directly with questions or send an email via techforum@bpa.gov (with copy to your AE).