

P201 / P202 - Non Delivery Rules

This note considers two possible approaches to the calculation of Non-Delivery Charges under P201 and P202. An overview of the existing rules is also provided.

Existing Non-Delivery Charges

When a Bid or Offer is accepted, the Lead Party pays or is paid for the accepted volume via the BM Unit Cashflow. In addition, the accepted volume is reflected in the calculation of the Party's imbalance charges, such that a Party will face increased imbalance exposure if it does not deliver an accepted Bid or Offer.

A Party could potentially benefit from not delivering an accepted Bid or Offer if there is an overall net payment resulting from the combination of the accepted Bid/Offer cashflow and any increased imbalance exposure. Non-Delivery Charges are calculated in accordance with Section T4.8 of the Code and seek to remove any benefit to the Party from not delivering an acceptance. In simplistic terms, the non-delivery rules work as follows:

1. An estimate of the volume of each accepted Offer and Bid which has not been delivered is calculated; and
2. The price of each non-delivered Bid and Offer volume is then compared to the relevant imbalance price to estimate whether a benefit has been received:
 - a. If an Offer is not delivered, the Party is assumed to be short and the price of the Offer is compared to SBP. If the Offer Price exceeds the SBP, the Party receives a Non-Delivery charge equal to the Non-Delivered Offer Volume * the difference between the Offer Price and SBP; and
 - b. If a Bid is not delivered, the Party is assumed to be long and the price of the Bid is compared to SSP. If SSP exceeds the Bid Price, the Party receives a Non-Delivery charge equal to the Non-Delivered Bid Volume * the difference between the Bid Price and SSP.

It should be noted that the current baseline does not attempt to fully remove the effects of non-delivery in every possible scenario; rather it provides a simplified mechanism which attempts to remove any incentive not to deliver an accepted Bid or Offer. For example, it is still possible for a Party to benefit from non-delivery if all or part of the non-delivered action resulted in exposure to a different imbalance price than that assumed in the calculation of non-delivery charges (e.g. SSP in the case of non-delivered offers and SBP in the case of non-delivered Bids). In addition, a Party may actually be disadvantaged by the non-delivery of an acceptance and no attempt is made to remove this effect. This approximate nature of the existing rules should be recognised when considering changes under P201/2.

Non-Delivery under P201/2

Under P201/202 a Party's imbalance charges may be generated at the Tolerance Price rather than the relevant imbalance price. Hence there is the potential for a Party to benefit from not delivering a Bid or Offer relative to the current baseline. This occurs since imbalance exposure in the tolerance band may be lower than that assumed in the non-delivery calculation (since the non-delivery calculation assumes imbalance exposure at either SBP or SSP, whereas the Party may actually be exposed to the Tolerance Price).

P201/2 Non-Delivery Rules: Approach 1

Proposed Non-Delivery Rules for P201/202 have been developed based on the following assumptions:

- Only Parties with tolerance qualifying volumes can benefit relative to the existing baseline;
- In periods where the market is short, any benefit will be due to the difference between SBP and the Tolerance Price. Hence, only Offer Non-Delivery will be affected;
- In periods where the market was long, any benefit is due to the difference between SSP and the Tolerance Price (NB: applies to P202 only). Hence, only Bid Non-Delivery will be affected;
- The existing rules are sufficient to generate Non-Delivery Charges to remove any differential between the Bid/ Offer price and the relevant imbalance price. Therefore, any relative benefit under P201/202 is only due to the difference between the Tolerance Price and the relevant Imbalance Price. Hence, the calculation does not need to be applied at the level of an individual Bid/Offer. NB: this is a simplifying assumption since, where the Offer/Bid price is less than the relevant imbalance price it will lead to an over estimate of the potential benefit to the Party (and therefore a possible over recovery via non-delivery charges – as considered further later in this document).
- Any benefit under P201/P202 is over the Party's total volume of non-delivered Bids or Offers capped by the size of the Tolerance Band (i.e. it is assumed the Party would be balanced in the absence of the effect of Non-Delivery).

Therefore, the proposed approach is to calculate an additional Non-Delivery Charge for Parties with qualifying volumes. This charge will be based on the Party's total Non-Delivered Volume (capped by the size of the Tolerance Band) multiplied by the differential between the Tolerance Price and the Main Price.

Example

In the following example a Party has two accepted offers which were not delivered.

Offer	Price	Volume	Offer Income	Non-Delivered Volume	Current Baseline Non-Delivery Charge
1	£300	20	£6,000	20	£2,000
2	£400	20	£8,000	20	£4,000
Total			£14,000	40	£6,000
SBP = £200, TP = £50, Tolerance Band = 20MWh					

Although the Party would otherwise be balanced, none of the Accepted Offers are delivered; hence the Party has an imbalance volume of -40MWh.

Current Baseline:

The entire 40MWh of imbalance is exposed to SBP (£8,000).

Offer Income = £14,000

Imbalance Charge = -£8,000

Existing Non-Delivery Charge = -£6,000

Party receives no overall benefit

P201/2 with existing Non-Delivery Rules:

The first 20MWh of imbalance is exposed to the Tolerance Price (£1,000), the remaining 20MWh are exposed to SBP (£4,000).

Offer Income = £14,000

Imbalance Charge = -£5,000

Existing Non-Delivery Charge = -£6,000

Party receives an overall benefit = £3,000

P201/2 under Proposed Rules:

The first 20MWh of Imbalance is exposed to the Tolerance Price (£1,000), the remaining 20MWh are exposed to SBP (£4,000).

Offer Income = £14,000

Imbalance Charge = -£5,000

Existing Non-Delivery Charge = -£6,000

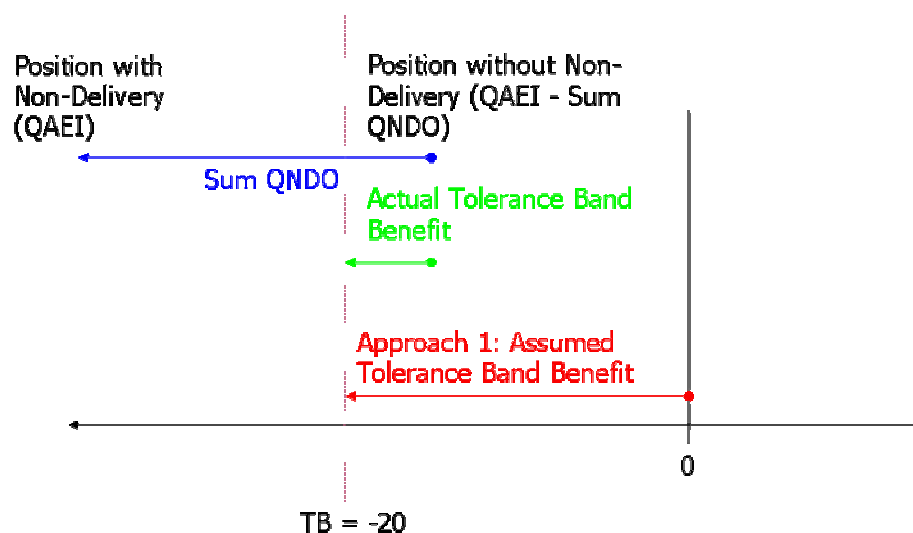
An additional Non-Delivery charge is included at:

Tolerance Non Delivery Charge = $\text{Min}(\text{Total Party Non-Delivered Offer Volume, Tolerance Band}) * (\text{SBP-TP}) = -£3,000$

This additional Tolerance Non-Delivery Charge would act to remove the benefit due to the differential between imbalance exposure at the Tolerance Price and assumed exposure at the SBP.

Limitations of Approach 1:

Whilst Approach 1 will ensure that any benefit relative to the current baseline is removed, it may over recover the benefit relative to the current baseline in some circumstance. This occurs since the calculation assumes the effect of non-delivery is relative to a balanced position. However, in practice a Party may not be in a balanced position in the absence of non-delivery, as such the actual benefit relative to the current baseline may be less than assumed in the revised non-delivery rules proposed under Approach 1 (as illustrated below).



Approach 2:

The second potential approach attempts to identify the actual volume by which a Party benefits within the tolerance band as a consequence of non-delivery. This is achieved by comparing the actual imbalance position to the imbalance position that would have occurred in the absence of the non-delivered Bids/Offer. Using this approach it is possible to estimate the volume of imbalance within the tolerance band as a consequence of non-delivery.

Offers

The current non-delivery rules assume the Party paid SBP on their non-delivered Offer (ignoring the fact that they may actually have paid SSP on some or all of the volume). This approach would continue to ignore the possibility that the Party might have paid SSP, but will take TP into account i.e. would make an extra (SBP-TP) charge for any increase in the amount of energy exposed to TP.

After taking into account the Non-Delivery (and noting that only Parties with a non-zero CAEITB in a short market are relevant, which must by definition have $QAEI < 0$) the Party's actual exposure to TP is the negative quantity:

$$\text{Max}(QAEI, -TB) \quad (1)$$

If the Party hadn't non-delivered the volume, its imbalance would have been $(QAEI + \Sigma QNDO)$, and its exposure to TP would have been the negative quantity:

$$\text{Min}(0, \text{Max}(QAEI + \Sigma QNDO, -TB)) \quad (2)$$

The proposal is to charge back (SBP-TP) on the difference (2)-(1), as illustrated in the following table (for the example of a 40 MWh non-delivered Offer):

Actual		If Non-Delivery Hadn't Happened		Extra Charge
QAEI	TP Exposure (1)	QAEI	TP Exposure (2)	
0 or more	0	+40	0	0
-10	-10	+30	0	10 * (SBP-TP)
-20	-20	+20	0	20 * (SBP-TP)
-30	-20	+10	0	20 * (SBP-TP)
-40	-20	0	0	20 * (SBP-TP)
-50	-20	-10	-10	10 * (SBP-TP)
-60 or less	-20	-20	-20	0

So, in summary, if $CAEITB < 0$ and $NIV > 0$:

$$TCND_{aj} = \{ \text{Min}(0, \text{Max}(QAEI + \Sigma QNDO, -TB)) - \text{Max}(QAEI, -TB) \} * (SBP-TP)$$

Bids:

The current non-delivery rules assume the Party was paid SSP on their non-delivered Bid (ignoring the fact that they may actually have been paid SBP on some or all of the volume). This approach continues to ignore the possibility that they might have paid SBP, but will take TP into account i.e. we will make an extra (SSP-TP) charge for any increase in the amount of energy exposed to TP.

After taking into account the Non-Delivery (and noting that only Parties with a non-zero CAEITB in a long market are relevant, who must by definition have $QAEI > 0$) their exposure to TP is the positive quantity:

$$\text{Min}(QAEI, TB) \quad (1)$$

If they hadn't non-delivered the volume, their imbalance would have been (QAEI+ΣQNDB), and their exposure to TP would have been the positive quantity:

$$\text{Max}(0, \text{Min}(\text{QAEI} + \Sigma \text{QNDB}, \text{TB})) \quad (2)$$

The proposal is to charge back (SSP-TP) on the difference (2)-(1), as illustrated in the following table (for the example of a 40 MWh non-delivered Bid):

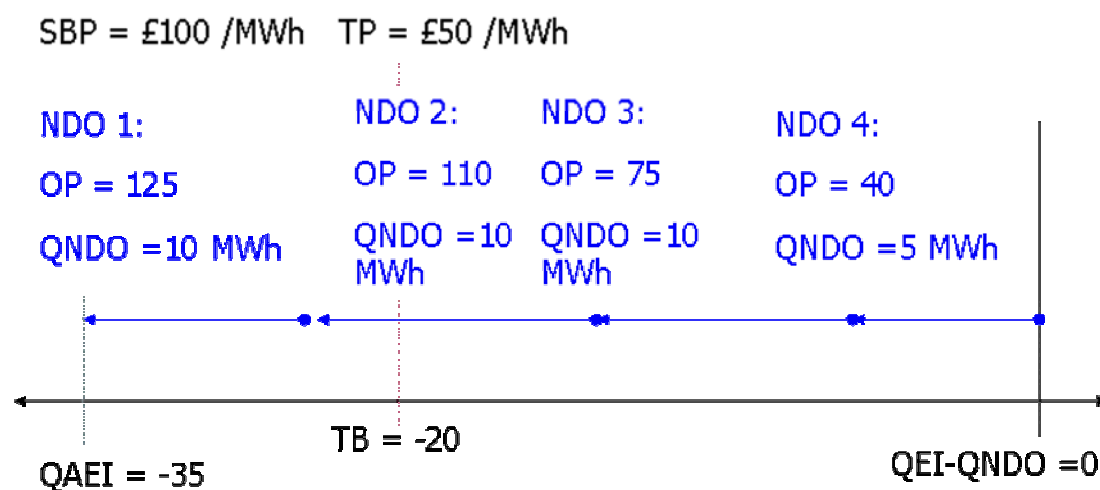
Actual		If Non-Delivery Hadn't Happened		Extra Charge
QAEI	TP Exposure (1)	QAEI	TP Exposure (2)	
0 or less	0	40	0	0
10	10	50	0	10 * (SSP-TP)
20	20	60	0	20 * (SSP-TP)
30	20	-10	0	20 * (SSP-TP)
40	20	0	0	20 * (SSP-TP)
50	20	10	10	10 * (SSP-TP)
60	20	20	20	0
70	20	30	20	0

So, in summary, if CAEITB <> 0 and NIV < 0:

$$\text{TCND}_{aj} = \{\text{Min}(0, \text{Max}(\text{QAEI} + \Sigma \text{QNDB}, \text{TB})) - \text{Min}(\text{QAEI}, \text{TB})\} * (\text{SBP} - \text{TP})$$

Limitations of Approach 1 and Approach 2:

Both Approach 1 and Approach 2 have the potential to charge participants for non-delivery even if there is no benefit to the Party from not delivering an accepted Bid/Offer. This occurs due to the assumption that the benefit occurs due to the difference between the relevant imbalance price and the tolerance price. In practice, any true benefit occurs due to the differential between an individual Bid/Offer price and the relevant Imbalance Price or due to the differential between an individual Bid/Offer price and the Tolerance Price price. This is illustrated in the example below:



In this example a Party has four non-delivered Offers of 10MWh with different prices. It is assumed that each non-delivered offer acts in order of increasing price to increase the Party's imbalance exposure. Since each offer has a different price and may or may not lead to increased exposure in the tolerance band, the effect of non-delivering some of the offers acts to benefit the Party whereas others lead to a net charge.

Impact of not delivering in absence of non-delivery

The table below illustrates the net impact of not delivering each accepted Offer under P201 in the absence of any non-delivery charges. Non-delivery of Offers 1, 2 and 3 result in a net payment to the Party, whilst Offer 4 results in a net charge.

Offer	Imbalance Charge Impact	Offer Income	Net
1	10@SBP = -1,000	£1,250	£250
2	5@SBP + 5@TP = -£750	£1,100	£350
3	10@TP = -£500	£750	£250
4	5 @TP = -£250	£200	-£50
Total	-£2,500	£3,300	£800

Impact of Non-Delivery Charges under proposed P201 rules

The table below illustrates the net impact of not delivering each accepted Offer under the proposed P201 non-delivery charges. The proposed P201 non-delivery rules act to precisely remove the impact of non-delivery for offers where the offer price > SBP, such that the net effect of not delivering offers 1 and 2 is zero. However, in the case of offers 3 and 4 the offer price is below the SBP. As a consequence, the P201 non-delivery rules over recover the benefit to the affected Party, and in the case of offer 4 apply despite the Party already receiving a net charge due to the non-delivery.

Offer	Imbalance Charge Impact	Offer Income	Existing Non-Delivery	P201 Non-Delivery	Net
1	10@SBP = -1,000	£1,250	-£250	n/a	0
2	5@SBP + 5@TP = -£750	£1,100	-£100	5@ (SBP-TP) = -£250	0
3	10@TP = -£500	£750	0	10@ (SBP-TP) = -£500	-£250
4	5 @TP = -£250	£200	0	5@ (SBP-TP) = -£250	-£300
Total	-£2,500	£3,300	-£350	-£1,000	-£550

It should be noted that the over recovery will only ever reduce any benefit that the Party receives via imbalance exposure under P201/2 relative to the current baseline. This is because the over recovery is based on removing the differential between the main imbalance price and the tolerance price. Hence, the Party will never be worse off than under the current baseline, however it could effectively lose the benefit of the tolerance band if it is considered not to have delivered a bid or offer.

The possibility of addressing this over recovery under the proposed P201 non-delivery rules has not been considered. Any mechanism that avoided the potential over recovery would require making some form of judgement at the level of an individual non-delivered acceptance on whether the effect of non-delivery had influenced exposure to the tolerance price. It would then be necessary to compare the price of each portion of non-delivered Bid/Offer in the tolerance band to the Tolerance Price in order to identify whether or not there was a benefit and, where necessary, generate an appropriate charge for each non-

delivered acceptance. Given the complexity of considering each Bid/Offer acceptance relative to a Party's actual imbalance position simplifying assumptions and resulting inaccuracies present in the existing non-delivery rules, this approach has not been investigated further.

Summary:

The proposed P201/2 non-delivery rules will ensure that it is not possible to benefit via non-delivery of a Bid/Offer Acceptance relative to the current baseline. This would be achieved by removing a proportion of the imbalance charge benefit (i.e. the difference between the main imbalance price and the tolerance price) via the introduction of an additional account level non-delivery charge. In some cases the proposed approach would result in an over recovery, such that participants will be at a net disadvantage from non-delivery. However, any overcharge will be limited to the imbalance charge benefit provided to the party via the tolerance band. As such, a Party would never be in a worse position overall than under the current baseline. Recognising that over and under recovery can occur under the existing non-delivery rules, the proposed rules appear to provide a feasible mechanism sufficient to ensure that there is no incentive not to deliver an accepted Bid/ Offer under P201/2. Costs of both approaches identified are to be established via impact assessment.