Availability True-Up Mechanism Applied to Hourly Demand Resources (HDRs): Examples

Objective

The purpose of this document is to provide clarity and understanding of how the new availability charges true-up payment will be calculated and applied. Illustrative examples are provided below for an Hourly Demand Response (HDR) resource participating in the Capacity Auction.

The final design memos for both the availability charges true-up payment and the in-period cleared UCAP adjustment charge can be found at the top of the engagement webpage and are planned to be implemented as part of the 2023 Capacity Auction Enhancements.

Availability Charges True-Up: Refresher

The intent of the availability charges true-up is to compensate resources for submitting bids/offers into the energy market that accurately reflect their availability over the duration of an obligation period, when those bids/offers meet certain criteria (details provided below). An availability charge (which is an existing Capacity Auction non-performance charge) is applied when a resource bids/offers less than its capacity obligation (its cleared UCAP) in any interval/hour during the availability window. The availability charges true-up provides resources with an opportunity to offset a portion of these charges if, on average, the availability of the resource is determined to be greater than or equal to its capacity obligation amount over the duration of the obligation period. The availability charges true-up payment is capped at the total availability charges incurred, (i.e., no extra payment for over availability) and cannot recover availability charges that are utilized to offset a portion of the in-period cleared UCAP adjustment charge.

Availability True-Up: The Details

The availability charges true-up payment is calculated at the end of the obligation period by assessing bid/offer amounts that were submitted in excess of the capacity obligation, for each hour. The calculation looks at the capacity bid/offered each hour that is above the obligation and assess it against the capacity eligible for an availability charges true-up payment which is capped at the lesser of the following:

- 115% of a resource's cleared UCAP obligation
- the resource's cleared ICAP
- the resource's registered capability (applicable only to virtual HDR resources)

The capacity amount eligible for the availability charges true-up payment is then used to offset any availability charges incurred during the obligation period, with the exception of any availability charges that were utilized to offset a portion of the in-period cleared UCAP adjustment charge for HDR resources. In-period cleared UCAP adjustment charges are not recoverable as they ensure the capacity payments for the obligation are aligned with the revised capacity obligation.

As a result of the above criteria, a resource can only qualify for the availability charges true-up if their capacity obligation (their cleared UCAP) is less than their cleared ICAP.

In the case of an HDR resource that has a revised capacity obligation/cleared UCAP, as a result of the in-period adjustment being applied, the availability true-up will look at all the bids/offers made during the obligation period relative to the capacity obligation/cleared UCAP held by the capacity market participant on day the bids were placed.

Availability True-Up: Examples

Example 1:

Prior to In-period Adjustment

Assumptions

Cleared ICAP = 100 MW

Cleared UCAP = 100 MW

Capacity Test Performance = 75 MW

In-period cleared UCAP Adjustment = 25 MW

Revised cleared UCAP = 75 MW

Total Availability Charges Incurred in First Two Months of Obligation Period = $18,840

Total Availability Payments Received = $1,318,000

In-period cleared UCAP Adjustment Charge = $310,860

In the first example, let us assume that an HDR resource has a cleared ICAP of 100 MW, which is also equal to its cleared UCAP.

As stated above, when the cleared ICAP is equal to the cleared UCAP, there is no opportunity for the resource to bid an amount greater than the obligation and therefore, no opportunity to offset any availability charges through the availability charges true-up.

Over the first two months of the obligation period (prior to the capacity test), let us assume that the resource has reduced its availability through its bids such that total availability charges incurred equals $18,840.

During the capacity test, the resource fails the test by delivering 75 MW resulting in the application of an in-period cleared UCAP adjustment which revises the resource's cleared UCAP to 75 MW for the

remainder of the obligation period. The in-period cleared UCAP adjustment charge will recover 25 MW worth of availability payments received prior to the capacity test, less any availability charges incurred on any day, for up to 25 MW of unavailable capacity below the original 100 MW obligation. Any daily availability charges that were incurred in excess of 25 MWs of unavailable capacity prior to the application of the in-period cleared UCAP adjustment will be eligible for recovery through the availability true-up payment.

Let's assume the resource has earned a total of $1,318,000 of availability payments over the first two months. The in-period cleared UCAP adjustment charge is applied to recover 25% of availability payments (based on test results) that were earned prior to the in-period cleared UCAP adjustment, less any availability charges incurred for up to 25 MW of unavailable capacity below the original 100 MW obligation (calculated on a daily basis). As shown below, all availability charges that have been incurred over the first two months of the obligation period are off setting a portion of the in-period cleared UCAP adjustment charge, therefore there are no availability charges from the first two months of the obligation period to be recovered by the availability true-up mechanism at the end of the obligation period.

In-period cleared UCAP adjustment charge

= Availability Payment x UCAP Adjustment - Incurred Availability Charges[1]

= ($1,318,000 x 25%) - $18,840

= $310,860

After In-period Adjustment

Assumptions

Revised cleared UCAP/obligation = 75 MW

Total Availability Charges Incurred in Remaining Four Months of Obligation Period = $6,280

After the in-period cleared UCAP adjustment is applied, the resource will have a revised cleared UCAP (obligation) of 75 MW. In various hours during the remaining four months of the obligation period, the resource reduces its availability through its bids resulting in $6,280 of availability charges being incurred.

[1] In cases where the daily availability charge is greater than the full daily in-period adjustment charge that would apply, the daily availability charges that remain after offsetting the daily in-period adjustment would qualify for true-up at the end of the obligation period.

Let's assume that in 27 hours during the remaining four months of the obligation period, the resource has bid 10 MW over its revised cleared UCAP (obligation) resulting in a potential maximum availability charges true-up payment of $9,420:

Over-availability that can be used for availability charges true-up

= 27 hours x 10 MW x $34.89/MWh [2]

= $9420

Since this amount exceeds the availability charges incurred, all availability charges ($6280) incurred over the remaining four months of the obligation period can be recovered through the availability charges true-up payment.

Example 2

Assumptions

Cleared ICAP = 100 MW

Cleared UCAP = 75 MW

Total Availability Charges Incurred in First Two Months of Obligation Period = $18,840

In the second example, let us assume that an HDR resource has a cleared ICAP of 100 MW, and a cleared UCAP of 75 MW.

Over the initial part of the obligation (prior to testing), let us assume that the resource has reduced its availability through its bids such that:

Availability charges incurred = $18,840

During this time, let's assume that in 27 hours during the remaining four months of the obligation period, the resource has bid 10 MW over its cleared UCAP (obligation) resulting in a potential maximum availability charges true-up payment of $9,420:

Over-availability that can be used for availability charges true-up

= 27 hours x 10 MW x $34.89/MWh [3]

= $9420

During the capacity test, the resource delivers its obligation of 75 MW and does not incur an in-period cleared UCAP adjustment charge. All availability charges incurred thus far ($18,840) will qualify for the availability charges true-up at the end of the obligation.

Over the remaining 4 months of the obligation, the resource reduces its availability through its bids on occasion such that:

Availability charges incurred = $6280

[2] Availability Rate based on $314/MW-day, divided by 9 hours of availability = $34.89/MWh
[3] See footnote 2.

Additionally, let's assume that in 27 hours during the remaining four months of the obligation period, the resource has bid 10 MW over its cleared UCAP (obligation) resulting in a potential maximum availability charges true-up payment of $9,420:

Over-availability that can be used for availability charges true-up

= 27 hours x 10 MW x $34.89/MWh [4]

= $9420

Over the entire obligation period:

Total availability charges = $18,840 + $6280 = $25,120

Over-availability that can be used for availability charges true-up = $9420 + $9420 = $18,840

The potential value of the availability charges true-up payment ($18,840) is less than the availability charges ($25,120) that have been incurred during the obligation, such that:

Availability Charges True-up payment = $18,840

[4] See footnote 2.