

287/11B - PROPOSED TECHNICAL CHANGE TO RR SCHEDULE METHODOLOGY

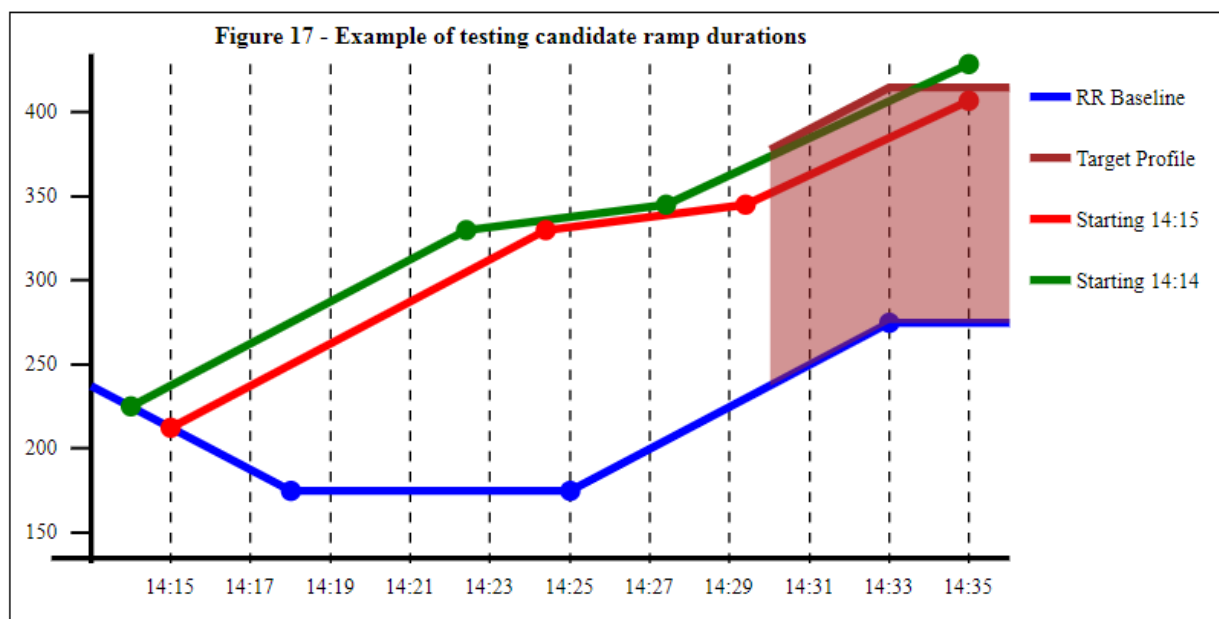
This Attachment describes a proposed change to the draft RR Schedule Methodology (version 0.2 [issued for industry consultation](#) on 16 January 2019). The change is technical in nature, and does not amend the intent of the Methodology, but is intended to:

- Make the Methodology more consistent with the Dispatch Principles in the [GC0097 Final Modification Report](#); and
- Make the Methodology more robust to scenarios in which the RR Baseline (in the vicinity of the Quarter Hour boundary) ramps up or down at a faster rate than the BM Unit's declared parameters (including the extreme case in which the RR Baseline has a discontinuity, jumping instantaneously from one MW level to another).

Background

The solution to BSC Modification P344 ('[Project TERRE implementation into GB market arrangements](#)') requires BSC systems to construct RR Schedules, which show the MW profile that a BM Unit would need to follow in order to deliver the results of the TERRE auction, while remaining consistent (where possible) with the BM Unit's declared Run-Up and Run-Down Rates.

In general the RR Schedule Methodology specifies an iterative 'trial and error' approach to identifying an appropriate profile. For example, Figure 17 in the draft Methodology illustrates a candidate profile beginning at 14:15 (which does not reach the required level of 415 MW by 14:35), and another candidate profile beginning at 14:14 (which does reach the required level).



What are we now proposing to change?

We are not proposing any change to the process for testing and identifying candidate profiles. But we are proposing a change to how the 'successful' candidate profile (i.e. the green line in Figure 17) is incorporated into the final RR Schedule:

- Version 0.2 of the RR Schedule Methodology (on which we consulted parties) proposed that the final RR Schedule would incorporate the point at which the successful candidate profile intersected the target profile (i.e. the brown line in figure 17). In the case of Figure 17, the time of intersection is approximately 14:33:40 (which would be rounded down to 14:33).

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- Version 0.3 of the RR Schedule Methodology (which we are now presenting to the BSC Panel) proposes that the final point incorporated into the final RR Schedule would be the 'target' point at which we were aiming (i.e. 415 MW at 14:35, in this example).

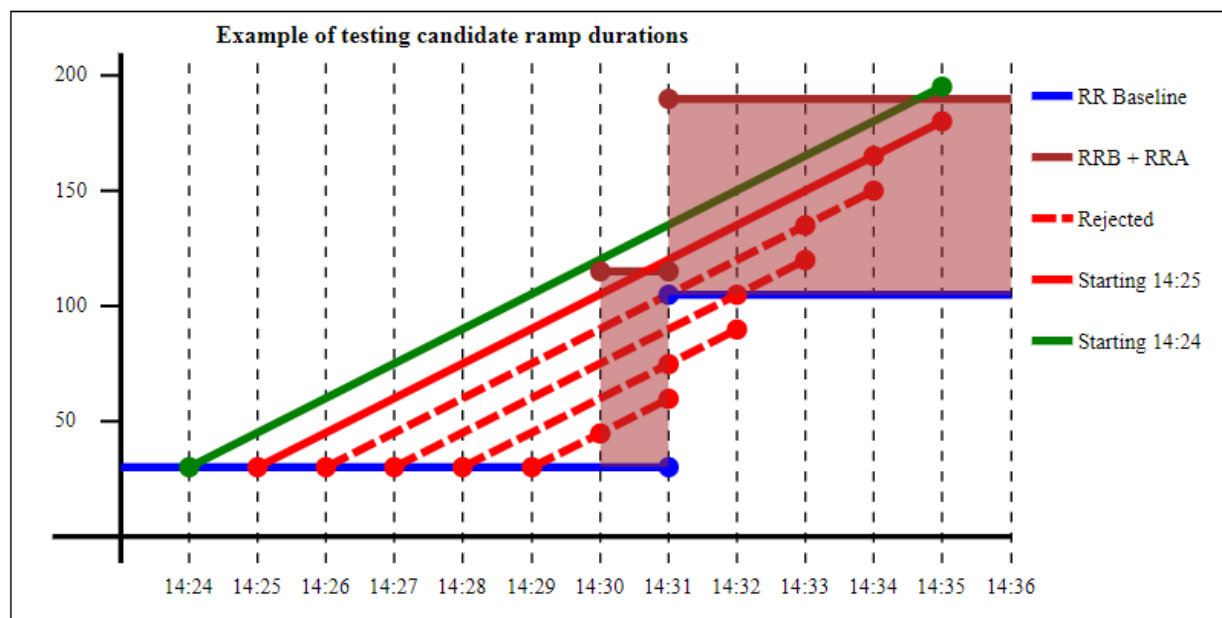
The following table illustrates the effect of this change on the RR Schedule corresponding to Figure 17:

RR Schedule Data for Figure 17			
Version 0.3 of RR Schedule Methodology (redlined against version 0.2)			
Time From	Time To	Level From	Level To
14:14	14:22	225	330
14:22	14:27	330	345
14:27	14:33 14:35	345	415

Why are we making this change?

In general this change will give results that comply more accurately with the dispatch principles in the GC0097 Final Modification Report. For example, Principle IV is relevant to Figure 17, and implies that the BM Unit's ramp should meet the required level at 14:35 (five minutes into the Quarter Hour block). Version 0.3 of the Methodology more accurately achieves this.

In most cases (because of the iterative process used to find candidate profiles) we would expect the difference between the two versions of the Methodology to be limited to a minute or two. But larger changes can arise if the RR Baseline is not 'well behaved' e.g. it includes a discontinuous 'jump' from one MW level to another. The following diagram provides an example of this:



In the above example:

- The dotted red lines are candidate profiles that don't meet the required level (i.e. the brown profile) and would therefore be rejected under either version of the Methodology;

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- The solid red line is a candidate profile that does meet the brown profile at 14:30:40, but is below the required level at 14:35. This profile would be accepted under version 0.2 of the Methodology, but not version 0.3.
- The solid green line is the first candidate profile that does reach the required level at 14:35, and is therefore the first one that would be accepted under version 0.3 of the Methodology.

In this case the two versions of the RR Schedule do give significantly different RR Schedules. Under version 0.2 the profile would meet the target profile (RRB + RRA) at 14:30, and follow it from that point on:

RR Schedule Data (up until 14:36)			
Version 0.2 of RR Schedule Methodology			
Time From	Time To	Level From	Level To
14:25	14:30	30	115
14:30	14:31	115	115
14:31	14:36	190	190

While, under version 0.3 of the Methodology, the profile would continue ramping until 14:35:

RR Schedule Data (up until 14:36)			
Version 0.2 of RR Schedule Methodology			
Time From	Time To	Level From	Level To
14:24	14:35	30	190
14:35	14:36	190	190

In this instance, the results of the version 0.2 Methodology deviate more significantly from the Dispatch Principles (although, in practice, a discontinuous FPN such as this is likely to be rare for a BM Unit participating in TERRE).