Proposal for a Capacity Market Rules Change

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Reference number *(to be completed by Ofgem)*: **CP216**

Name of Organisation(s) / individual(s): Association for Decentralised Energy	**Date Submitted:** 11.11.2016
Type of Change: ☒ **Amendment** ☐ **Addition** ☐ **Revoke** ☐ **Substitution**	**If applicable, whether you are aware of an alternative proposal already submitted which this proposal relates to:**

Proposal summary *(short summary, suitable for published description on our website)*
Clarification of the Settlement Periods to which Capacity Market Warnings apply, so as to improve transparency, reduce wasteful dispatches of expensive or energy-limited resources, and increase customers' and participants' confidence in operation of the Capacity Market.

What the proposal relates to and if applicable, what current provision of Rules the proposal relates to *(please state provision number)***:**
This proposal relates to the content, issue, and expiry of Capacity Market Warnings, in accordance with Rule 8.4.6.

Description of the issue that the change proposal seeks to address:
The two Capacity Market Warnings issued and cancelled by the System Operator so far in the 2016/17 Transitional Arrangements Delivery Year have shown that the System Operator is interpreting the rules requirements in a way which is unhelpful to participants, potentially causing unnecessary dispatches of high-cost resources. This change proposal seeks to remove ambiguity from the rules requirements around Capacity Market Warnings, so that better information can be provided to participants, to enable them to make better decisions, so that they system can operate more efficiently.

The System Operator is required to issue Capacity Market Warnings (which they are currently calling "Capacity Market Notices"), under Rule 11.3.5 for the Transitional Arrangements and Rule 8.4.6 for normal Delivery Years.

Rule 8.4.6(a)(ii) [or 11.3.5(b)(ii)] requires the System Operator to issue a notice if an Inadequate System Margin "is anticipated to occur in a Settlement Period falling at least 4 hours after the expiry of the current Settlement Period". Rule 8.4.6(c)(iii) requires the warning to contain particular information "for the Settlement Period(s) for which the warning is applicable".

It is reasonable to infer from this that the Capacity Market Warning should apply to one or more specified Settlement Periods during which Inadequate System Margin is expected. However, the System Operator does not appear to be interpreting the rules that way. Instead, they are interpreting the Capacity Market Warning as applying to the first Settlement Period for which they expect Inadequate System Margin *and to all future Settlement Periods until the end of time*.

This interpretation problematic because it can lead to participants believing that there may be a system stress event during a particular Settlement Period (and hence deciding to take expensive or disruptive actions to meet their capacity commitments) in circumstances where the System Operator is no longer concerned about that Settlement Period, and any additional response from participants could be unhelpful.

For example, under the System Operator's current interpretation of the rules, the following could occur:

(a) 11:35am: System Operator issues a Capacity Market Warning regarding the Settlement Period commencing 4:00pm, because they anticipate Insufficient System Margin during that Settlement Period.
(b) 12:05pm: System Operator re-examines margin forecasts and decides that there is no longer any concern about the 4:00pm Settlement Period, but they expect Insufficient System Margin in the 4:30pm Settlement Period.
(c) 12:35pm: System Operator re-examines margin forecasts and decides that there is no longer any concern about the 4:30pm Settlement Period, but they expect Insufficient System Margin in the 5:00pm Settlement Period.
(d) 1:05pm: System Operator re-examines margin forecasts and decides that there is no longer any concern about the 5:00pm Settlement Period, but they expect Insufficient System Margin in the 5:30pm Settlement Period.
(e) 1:35pm: System Operator re-examines margin forecasts and decides that there is no longer any concern about the 5:30pm Settlement Period, but they expect Insufficient System Margin in the 6:00pm Settlement Period.
(f) 2:05pm: System Operator re-examines margin forecasts and decides that there is no longer any concern about the 6:00pm Settlement Period, but they expect Insufficient System Margin in the 6:30pm Settlement Period.
(g) 2:35pm: System Operator re-examines margin forecasts and decides that there is no longer any concern about the 6:30pm Settlement Period, but they expect Insufficient System Margin in the 7:00pm Settlement Period.
(h) 3:05pm: System Operator re-examines margin forecasts and decides that there is no longer any concern about the 7:00pm Settlement Period, but they expect Insufficient System Margin in the 7:30pm Settlement Period.
(i) 3:35pm: System Operator re-examines margin forecasts and decides that there is no longer any concern about the 7:30pm Settlement Period, but they expect Insufficient System Margin in the 8:00pm Settlement Period.
(j) 4:05pm: System Operator re-examines margin forecasts and decides that there is no longer any concern about the 8:00pm Settlement Period, but they expect Insufficient System Margin in the 8:30pm Settlement Period.
(k) 4:35pm: System Operator re-examines margin forecasts and decides that there is no longer any concern about the 8:30pm Settlement Period, so it cancels the Capacity Market Warning.

This is an entirely plausible sequence. The first Capacity Market Warning went on for even longer than this: it was issued at 12:06pm on 31 October 2016 (regarding the 4:30pm Settlement Period) and not cancelled until 6:53pm.

The problem is that only steps (a) and (k) are visible to participants. The System Operator carries out steps (b) through (j), but does share the results. It also does not publish the information needed for anybody else to replicate these calculations.

This means that, for example, a participant that has a high-dispatch-cost resource that can respond in 20 minutes is has to decide by 3:40pm whether to dispatch it for a 4pm start, in case there is a System Stress Event. At this time, the System Operator had decided 3 hours and 35 minutes previously that they were no longer concerned about the 4pm Settlement Period, but they did not tell anybody.

Similarly, at 4:00pm, not only did participants not know whether the System Operator was concerned about the current Settlement Period, but they also did not know whether the System Operator had any concerns about later in the evening. They therefore did not know whether they should be making arrangements to dispatch long-notice resources for 8:00pm.

Participants can take into account the system information that is published (such as de-rated margin), but this is not directly comparable, and not so frequently updated (de-rated margin is only updated five times on the day). So participants have to make their decisions on the basis of stale information, and hence are less likely to make the correct decision.

This issue could be addressed in either of two ways:

1. Requiring the System Operator to publish the results of its System Margin calculations under Rule 8.4.7 each time they are updated while any Capacity Market Warning is in force.

2. Clarifying the definition of Capacity Market Warnings, so that each warning applies to the specific Settlement Period that triggered it, removing the possibility of the rule being interpreted as allowing the issuance of warnings that apply until the end of time.

Drafting for both options is provided below. We favour Option 2 because, although it is a more substantial change, it removes ambiguity and simplifies the design and operation of the market.

If applicable, please state the proposed revised drafting *(please highlight the change)***:**

Option 1
Add Rule 8.4.6(f):
While a Capacity Market Warning remains in force, the System Operator must publish updates to the information set out in Rule 8.4.6(c)(iii) at least once during each Settlement Period.

Option 2
Amend Rule 8.4.6(c)(i):
the commencement time of the Settlement Period to which the warning applies;

Amend Rule 8.4.6(d):
A Capacity Market Warning will remain in force from the stated time of commencement until the end of the Settlement Period to which it applies, or until such time as an Inadequate System Margin is no longer forecast to arise, as determined under Rule 8.4.7, during that Settlement Period, whichever is the sooner.

Analysis and evidence on the impact on industry and/or consumers including any risks to note when making the revision - including, any potential implications for industry codes:
Under the System Operator's current interpretation of the rule requirements around Capacity Market Warnings, warnings are published and left in force even when the situation on the system has changed markedly.

While there are other sources of system information, these are not directly applicable, and are not updated as frequently as the information that the System Operator uses to make its calculations under Rule 8.4.7.

This means that participants have to make dispatch decisions in the face of unnecessary levels of uncertainty: not just the irreducible uncertainty about what will actually happen on the system, but also the uncertainty as to what the latest information shows as being likely. This increases the chance of participants making incorrect decisions: dispatching when there is no need to do so (and to do so will exacerbate imbalances), or failing to dispatch when in fact they are needed.

This is a particular problem for DSR CMUs offered by independent aggregators. This is because (a) they tend to have the highest dispatch costs of any resources, mostly driven by customer opportunity costs, (b) unlike all other resources, they do not earn any energy market revenues to offset their dispatch costs, and (c) aggregators are acutely aware that customers suffer "fatigue" if they are repeatedly dispatched to no apparent purpose, and hence seek to minimise dispatches so as to maintain reliability.

It could be argued that Capacity Market Warnings are purely a settlement tool, and should not be used for operational decision-making. This is specious. A Capacity Market Warning serves no purpose if it does not convey useful information to participants. In principle, the Capacity Market could work without warnings, with it simply being left to each participant to predict when System Stress Events might occur: this would be horribly inefficient, and prevent participation by resources with high dispatch costs. Capacity Market Warnings were included in the design so as to avoid this. The rules specify how warnings should be issued and what information they should contain. Unfortunately there is some ambiguity in these requirements, and the System Operator has chosen to interpret them in a way which maximises uncertainty for capacity providers.

This unnecessarily elevated uncertainty:

- Leads to CMUs in general, and DSR CMUs in particular, incurring unnecessary dispatch costs (both direct costs, and economic costs due to disruption on participating customer sites).
- Undermines reliability, due to the "boy who cries wolf" effect. Since penalties for non-delivery in the Capacity Market are rather weak, participants are likely to err on the side of not responding, in the face of repeated vague Capacity Market Warnings.

The proposed change should reduce the uncertainty and make Capacity Market Warnings less vague, and hence reduce the costs of erroneous dispatches and improve reliability.

We do not see that it introduces any risks, and it does not seem to have implications for industry codes.

Details of Proposer *(please include name, telephone number, email and organisation)***:**

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