EnerNOC UK Ltd
360-364 City Road
London EC1V 2PY
United Kingdom

Tel: +44 20 7833 3353
www.enernoc.co.uk
info@enernoc.com

Mark Copley
Associate Partner, Wholesale Markets
Ofgem
9 Millbank
London SW1P 3GW

Submitted by email

5 May 2017

Dear Mr Copley,

Response from EnerNOC to Ofgem's statutory consultation on changes to the Capacity Market Rules

EnerNOC is grateful for the opportunity to respond to this consultation, to help make the Capacity Market Rules more fit for purpose.

Since there are several common themes to our comments on the "minded to" positions and other issues arising in the proposed changes, we have grouped our responses into six categories. For ease of reference, we have listed the relevant rule changes and consultation questions in the outline on the next page.

Our comments on portfolio management are by far the most detailed, because we fear that three years of effort by many parties in developing workable rules to encourage active maintenance to maximise reliability could come to naught due to a misconceived element of Of12.

I would be happy to provide further detail on these comments, if that would be helpful.

Yours sincerely,

Dr Paul Troughton
Senior Director of Regulatory Affairs

Outline of comments

1 Improving reliability

The purpose of the Capacity Market is to deliver reliable capacity when the system needs it. Hence it is important to pursue reforms which will allow reliability to be maintained.

1.1 Portfolio maintenance (Of12, CP217, CP220)

We welcome the intent of Of12: to provide a mechanism through which DSR aggregators can actively maintain their portfolios so as to continue to deliver reliable performance in spite of any changes to their customers' activities. This is a core part of the role of a DSR aggregator, and essential if reliable performance is to be maintained. However, Of12 as proposed will not achieve this objective.

Generation analogy

An analogy with generation may be helpful in understanding this issue. The current rules for DSR are akin to rules that ban maintenance of generators, instead requiring any generator owner to seal the entrance to the power station building for the duration of the Delivery Year.

Under such a regime, generator owners would simply have to hope that nothing would break during the Delivery Year. If something did break, they would not be allowed to fix it, with the following consequences:

- If the breakdown occurred before they'd completed their Satisfactory Performance Days, they would have to refund all their capacity revenue. They'd then have no incentive to deliver anything at all during subsequent stress events.
- If the breakdown occurred after they'd completed their Satisfactory Performance Days, they may be able to continue earning capacity revenue, but they'd underperform during any subsequent stress events, and be liable to pay penalties.

Either way, consumers would suffer, because less capacity would be available for the remainder of the Delivery Year, leading to lower system reliability.

It could be argued that such an arrangement would incentivise generator proponents to build extremely reliable plant. It might, but there is no way that this could be considered to be efficient: it could only be achieved at hugely increased cost, by building in massive redundancy to allow plant to survive failures without maintenance.

Continuing the analogy, Of12 is a reform intended to move away from such a wasteful regime, and instead encourage generator owners to perform prudent maintenance on their plant so as to improve reliability. However, it includes provisions that make the generator owner incur costs equivalent to at least a

month's revenue[1] each time they touch their plant, and will lead to their Capacity Agreement being terminated if the maintenance doesn't return the generator to perfect condition first time.[2]

Such a reform would clearly not lead to generator owners performing sensible routine and preventative maintenance. Rather, they would only maintain their plant during the Delivery Year if there was no other way to avoid losing their year's revenue.[3]

Additional DSR tests are unnecessary and expensive

Of12's effectiveness is entirely undermined by the proposed requirement that all components in a CMU[4] be subjected to a new DSR Test whenever any change is made.

A DSR Test is an expensive process for a DSR CMU that contains emergency capacity resources. These are customers who are able and willing to respond, but who may incur significant costs and/or inconvenience in doing so. It makes economic sense to have them competing in the capacity market, because they are generally the lowest-cost source of reliable capacity.[5] In the absence of dispatch payments, the amount that such customers have to be paid for their capacity (for them to judge participation to be worthwhile) depends on their expectation of the number of dispatches. If they are to be subjected to more dispatches, they become more expensive.[6]

In practice, additional tests are more problematic than additional genuine stress events. This is because many customers have an element of altruism in their reasons for participation: they're happier about responding if they can see that they're doing something useful. Customers can be persuaded that a few tests are needed to prove to the System Operator that their performance can be relied upon. But additional tests sap customer goodwill. To have to explain to a customer that an extra test is needed because of a change in operations by some other customer they've never heard of is frankly embarrassing.

---

1 A DSR Test requires an additional dispatch of all resources. The cost of providing DSR is dominated by customers' opportunity costs. More dispatches leads to greater opportunity costs. We suggest a month's revenue because 12 is a generous estimate of the number of dispatches expected in a year, including all other tests.

2 This refers to the proposed requirement in Rule 8.3.2A that a new DSR Test Certificate prove at least the Capacity Obligation, or the Capacity Agreement will be terminated.

3 Here the analogy breaks down somewhat: a generator would have another reason to fix their plant – to protect their ability to earn energy revenues – but this doesn't apply to DSR CMUs, as they do not earn energy revenues.

4 … and all components in any other CMUs that underwent a Joint DSR Test with the affected CMU.

5 There are other classes of customer (or particular loads within customers' sites) that incur less cost and inconvenience in responding, even to the extent of not noticing that they are doing so, but such resources are less abundant and more expensive. The purpose of a capacity market is to procure reliable resources *at least cost*, so it must accommodate emergency capacity resources.

6 This is considering costs from the point of view of consumers who are paying for the capacity market. An alternative approach is to ignore price and just consider economic costs. From this perspective, additional DSR Tests cause customers who provide DSR to incur additional opportunity costs. The effect is the same: tests are expensive, so unnecessary tests should be avoided.

Consider an aggregator who has several jointly-tested DSR CMUs containing a hundred customers, and a total Capacity Obligation of 200 MW. At the start of the year, all was well. However, over the course of the year, a couple of larger customers unexpectedly reduced the amount of response they were able to deliver, or the reliability with which they could deliver it, such that the portfolio could now only reliably deliver 190 MW.

The desired outcome is that the aggregator should strive to ensure that the portfolio maintains its ability to deliver 200 MW reliably. Ideally, they should act to add additional capacity as soon as they discover that the first customer is likely to reduce their contribution. To achieve this, the regime should encourage the aggregator to act, and make it easy for them to act promptly.

However, the current Of12 does not achieve this. Rather, **it deters portfolio maintenance** by making it expensive and embarrassing: even though they're only 10 MW short, due to problems with 2 customers, if they choose to perform maintenance, they'll have to inconvenience the other 98 customers, incurring costs and/or reputational damage.

So instead, you would expect the aggregator to avoid taking any action if at all possible. If they've already demonstrated satisfactory performance enough times, you would expect them to take no further action, and instead just run the risk of paying penalties in subsequent stress events. If they still had a Satisfactory Performance Day to complete, you would expect them to put considerable effort into persuading some of the other customers to deliver additional performance on that day – paying them extra if necessary – because this is preferable to an additional DSR Test. They would only use the risky and expensive Of12 process as a last resort, having exhausted all other options. They would also do it as late in the year as possible, so they could be sure that they would only need to do it once.

This is a long way from the desired behaviour.

Portfolio maintenance should not be a last resort: potential solutions

As discussed above, while Of12 does provide aggregators with a way to add customers so as to avoid losing their whole year's earnings, the DSR Test requirement means that it would only be used as a last resort, and hence would do little to improve overall reliability.

For portfolio maintenance to be performed promptly, unnecessary DSR Tests must not be triggered. However, getting rid of tests completely could create opportunities for gaming, so some middle path is needed that safeguards against this. Our suggestions are:

1. The contribution of each component in a DSR Test is tracked. If a component is removed from a CMU, its contribution is subtracted from the CMU's Proven DSR Capacity. Where new components are added, they have to undergo a DSR Test, and then their contributions are added to the

CMU's Proven DSR Capacity. This allows the Delivery Body to verify that any components that are removed are replaced with at least as much new capacity, while minimising the number of customers affected by DSR Tests.

2. If component-level tracking is not possible, then it would be necessary to test the whole CMU if any components are removed, to measure the effect of the removal. However, just adding components presents no such problem: adding components cannot reduce the performance or reliability of the CMU.[7] Hence the DSR Test requirement should be triggered only by the removal of components.

We understand that the Delivery Body has argued that they are not set up to track the contribution of each component. This seems an eminently solvable problem, because they are already calculating the performance of each component: the results are visible in the spreadsheets they use for DSR Tests. It also looks like it might be addressed anyway, because Of14 introduces the idea of "Proven DSR Capacity … evidenced at the component level". So we would recommend Option 1 as greatly preferable.

It could be argued that Option 2 would incentivise aggregators who needed to replace a customer instead just to leave them in the portfolio alongside the replacement customer. i.e. They'd refrain from removing the customer, so as to avoid triggering the DSR Test. It probably would.[8] However, this is still a preferable outcome in terms of reliability to the current drafting of Of12. To understand why, consider the alternatives:

- Under Option 2, the aggregator promptly adds new capacity to the CMU to ensure that it can deliver reliably in any stress event, because this is a prudent thing to do which doesn't expose their customers to undue costs or risks.

- Under Of12 as proposed, nobody other than the aggregator knows that the CMU needs capacity to be added, and for them to do so would be very expensive and disruptive, so the aggregator will do nothing to improve its reliability unless/until they realise that they are going to have to act to avoid having to repay their capacity revenues.

The first outcome is clearly better for consumers as a whole, as it will deliver better reliability. Option 1 would be better still, because it would encourage aggregators to eject non-performing customers from their portfolio,[9] and would allow the Delivery Body to verify that the aggregate capacity remains adequate. But Option 2 seems workable. Of12 as proposed is not.

---

[7] There is one possible scenario: if the component that is added systematically consumes more during system stress events than in normal circumstances. However, there would be no reason for an aggregator to add such a component.

[8] This is why it wouldn't make sense under such a regime to measure the capacity of the new components and assume that the Proven DSR Capacity has increased by that much.

[9] … so as to avoid any risk of negative performance.

Proposed time limits under Of12 are a poor and unnecessary compromise

Under Of12, component additions take 21 Working Days. This lengthy timeframe is driven largely by having to allow 20 Working Days for a new DSR Test to be completed.[10]

In fact, 20 Working Days may be insufficient: if you allow for a re-test, and take into account the minimum 2 Working Day notice period for each test,[11] the 5 Working Days allowed for the Delivery Body to calculate the test result,[12] and the 5 Working Days allowed for the Delivery Body to issue a DSR Test Certificate,[13] you have already used up 19 Working Days.

This is without allowing for the time taken for the Settlement Body to provide to the Delivery Body meter data covering the test day. There is no time limit in the rules for this: the clock starts ticking for the Delivery Body to perform the calculations only after they have received the data. In our experience to date, the Settlement Body has typically received meter data within 5 Working Days, and then taken 5 Working Days to respond to a request for the data from the Delivery Body. So for a single test you have to allow 22 Working Days; to cope with a re-test, you have to allow 39 Working Days.

These figures still do not allow for the possibility of the Delivery Body or System Operator exercising their right to cancel any test.[14] Each time they do this, at least a further 2 Working Days of notice are needed.

So a 20 Working Day limit could easily be breached, even if the aggregator schedules tests immediately, giving the minimum notice allowed, and there is no possibility of completing a re-test in that timeframe.

For new DSR Tests to be workable, sufficient time must be allowed. This could be done by requiring much faster turnarounds from the Settlement Body and Delivery Body, or by lengthening the deadline – say, to 40 Working Days.

However, lengthening the deadline would be damaging because it would undermine reliability: until the new components have been added to the CMU, there is no reason to expect them to respond during System Stress Events, because their performance will not count. So a longer deadline will leave the CMU in an unreliable state for longer.

---

10 Proposed Rule 8.3.4(g) allows 20 Working Days for the test to be completed, whereas 8.3.2A allows one month for a new DSR Test Certificate to be presented. The two requirements are similar, but not quite equivalent.

11 Rules 13.2.6(b), 13.2B.6(b), and 13.2B.6(c).

12 Rules 13.2.9, 13.2A.7, 13.2B.9, and 13.2C.7 give the Delivery Body 5 Working Days to perform the calculations, but it starts from when the Settlement Body provides the necessary data: there's no upper bound on the time taken for this.

13 Rules 13.2.11, 13.2A.11, 13.2B.12, and 13.2C.11 give the Delivery Body a further 5 Working Days to issue the certificate. Unlike the other provisions, this need only be performed once.

14 Rules 13.2.7 and 13.2B.7. The Delivery Body can do this twice for each test; there's no limit on the number of times the System Operator can do so. Each time a test is cancelled, at least 2 Working Days' notice must be given of a new test time.

Option 2 avoids this damaging compromise, by allowing new components to be added without the need for a DSR Test. It therefore minimises the time that the CMU will spend in an unreliable state – not only because an aggregator will act sooner (because maintenance is not deterred) but also because maintenance can be completed more quickly.

Rule 8.3.4(f) allows only 5 Working Days for the Delivery Body to process removals, so it should be possible to process additions in a similar timeframe. Aggregators could further reduce the time required by completing Metering Assessments and (if required) Metering Tests on the new components in advance.

Setting a cliff-edge at 100% performance would be counterproductive

Of12 as proposed not only deters portfolio maintenance by imposing a costly and unnecessary DSR Test on large numbers of innocent, unchanged customers: it goes further by requiring that test to prove 100% of the Capacity Obligation, with the sanction for failing to clear this hurdle being termination. If the hurdle is not cleared, the entire capacity is lost, and the aggregator will have to repay the whole year's capacity revenues (despite probably having already paid most of the revenues to customers).

So not only is portfolio maintenance made costly, embarrassing, and sapping of customer goodwill, but this provision means that it also entails the risk of bankruptcy. Aggregators will therefore make extremely strenuous efforts to avoid portfolio maintenance, which surely cannot be the intended outcome.

This is a disproportionately harsh test and penalty. Chapter 13A describes all the other situations in which a new DSR Test is required, and in each case,[15] if the new DSR Test falls short of the Capacity Obligation, there is no question of termination.[16] Instead, its Capacity Obligation is reduced proportionately, backdated to the start of the Delivery Year.

Note that this much more lenient treatment occurs in Chapter 13A even in situations in which the Capacity Provider is clearly at fault, because not only has something gone wrong, but they've also failed to respond to a Metering Recovery Payment Notice. It makes no sense for an aggregator diligently performing portfolio maintenance (something which should be **encouraged**) to run the risk of much harsher treatment.

Erroneous reasoning in the consultation paper

The consultation paper states the intent of Of12: "Aggregators should actively manage their portfolios to ensure reliability throughout the Delivery Year and meet satisfactory performance requirements."[17] As discussed above, Of12 as

[15] Specifically, Rules 13A.2.10, 13A.2.11, 13A.3.10, 13A.3.11, 13A.4.11, 13A.4.12, 13A.5.10, and 13A.5.11.

[16] Unless the Capacity Obligation falls below the 2 MW minimum eligibility threshold.

[17] Consultation paper, p.43.

currently drafted will not achieve this. It will prevent active management. Instead, if the new facility is used at all, it will only be as a last resort.

It is important to get to the bottom of the misunderstandings that have led to this proposed change missing the mark. The consultation paper provides some clues. It suggests that requiring a new DSR Test after any change

> *"mitigates against the risk of unreliable capacity being introduced."*[18]

and that the DSR Test must be carried out in a short time after notification of a change

> *"so that a CMU is not in an unreliable state for an extended period during the delivery year."*[19]

The idea seems to be that an aggregator might use the provisions introduced by Of12 to alter components in a CMU in a way that makes it less reliable, and that only a DSR Test would determine whether this had happened.

However, there's no incentive for an aggregator to do this. As noted in the consultation paper:

> *"the obligation for the CMU will not change in any way whilst components are being altered"*[20]

This means that adding components doesn't allow the aggregator to increase the Capacity Obligation, and hence earn more, so there's no reason for the aggregator to add components other than to improve reliability. Adding unreliable capacity achieves nothing.

So the issue isn't that a CMU might be in an unreliable state **after** it has components added. Rather, the problem is that it will be in an unreliable state **before** it has components added, and nobody but the aggregator has any way to discover this. To encourage the aggregator to get the CMU back into a reliable state promptly, it is necessary to make adding components painless, quick, and safe.

Under the status quo, the CMU will remain unreliable until the end of the Delivery Year. Under Of12 as proposed, since it deters portfolio maintenance so thoroughly, the CMU would also in most cases remain unreliable. It is only by removing the deterrent features that active portfolio maintenance will become likely.

It is also suggested that a new DSR Test should be required after any change because:

> *"The testing regime should ensure that components can be coordinated to deliver in accordance with the relevant Capacity Agreement."*[21]

---

18 Consultation paper, p.17.

19 Consultation paper, p.43.

20 Consultation paper, p.43.

21 Consultation paper, p.14.

The Satisfactory Performance Days and the DSR Test between them require this to be demonstrated four times per year. It seems the concern being expressed here is that new capacity that's added using the Of12 provisions might somehow be unable to be coordinated with the rest of the capacity in the CMU, and that to avoid this it might be necessary to test it again alongside all of the other components.

We have been unable to think of a scenario in which such uncoordinatable (or possibly incompatible) capacity would be added. Again, it comes back to incentives: if the capacity would not useful in increasing the capacity that the CMU can reliably deliver, why would the aggregator add it?[22] There would be no benefit to them from doing so. And presumably there would be costs: a customer wouldn't agree to join a portfolio without being paid.

Nevertheless, we can see why there might be some concern that a long-lived DSR CMU might be proven in a DSR Test once, then be carried forward from year to year, undergoing a whole series of component changes along the way, without having to show all the components working together in any further DSR Tests.

While this concern doesn't seem entirely justifiable (because System Stress Events and three Satisfactory Performance Days each year each require coordinated response), there may be some merit in preventing DSR Test Certificates being carried forward between Delivery Years if components have been changed without a new DSR Test having been performed. We therefore include this new restriction in the proposed drafting below.

Proposed drafting

CP217 already provided drafting to implement Option 1. As discussed above, Option 2 is not as good, but is still workable (unlike Of12). We are therefore providing drafting for Option 2, which requires only minimal changes from the Of12 proposals.

Change Rule 8.3.2A from the Of12 proposal as follows:

> Where a Capacity Provider has requested to ~~add and/or~~ remove components from a DSR CMU pursuant to Rule 8.3.4:

[22] It was suggested in a workshop that there might be a loophole involving two mutually exclusive loads – e.g. a site with two identical 1 MW pumps, A and B, one of which must be running at all times. In that case, if you metered the pumps individually, you could test either Pump A or Pump B and see 1 MW of response. If you had a CMU containing Pump A, then adding Pump B through a separate test might make it appear that 2 MW of response was available. But that problem isn't caused by the ability to add components. It's more fundamental: the site can't deliver even 1 MW: the net effect of stopping one pump and starting the other is zero. So neither Pump A nor Pump B should have been allowed in the CMU by themselves. Preventing just such a fraud is one of the purposes of the Single Line Diagram requirement: the site would only be allowed to be enrolled on the basis of the combined performance of both pumps, not just one of them. The ability to add components to a CMU wouldn't help a potential fraudster here at all: if they had somehow managed to establish a CMU containing only Pump A, adding Pump B to it would lead to the CMU correctly showing no response in total.

(a) the Capacity Provider must provide a DSR Test Certificate ~~evidencing a Proven DSR Capacity equal to or greater than the Capacity Obligation~~ for the relevant, newly configured DSR CMU within ~~one month~~ forty Working Days of notification under Rule 8.3.4(b) ~~or 8.3.4(e)~~ (taking the date of the first notification where multiple notifications may have been made with regard to the same CMU~~,~~);

(b) if the Capacity Provider does not comply with Rule 8.3.2A(a), or the new Proven DSR Capacity is less than 2MW, then Rule 6.10.1(i) applies.

(c) If the new DSR Test demonstrates a lower output than the Capacity Provider's Capacity Obligation, the Capacity Provider must have its Capacity Obligation reduced to its new Proven DSR Capacity.

The new wording in (b) and (c) is taken verbatim from the equivalent rules in Chapter 13A.

Add "or Rule 8.3.2A(b)" to Rule 7.5.1(v), so that the Capacity Market Register gets updated to reflect any reduction in Capacity Obligation and capacity payments will be reduced accordingly.

Change Rule 8.3.4 from the Of12 proposal as follows:

(f) With effect from the date falling ~~twenty one~~ five Working Days after receipt by the CM Settlement Body of a notice pursuant to Rule 8.3.4(e), and ~~only where~~ the conditions of Rules 8.3.4(g) having been met:

(i) the Baseline Demand; and

(ii) the Metered Volume in MWh to three decimal places~~.~~,

of the DSR CMU Component(s) referred to, must be included in any determination of the DSR Volume of the DSR CMU in which the DSR CMU Component(s) was comprised.

(g) Where Rules 8.3.4(b) or 8.3.4(e) apply, within ~~twenty~~ forty Working Days of notification to the Settlement Body:

(i) where rule 8.3.4(e) applies, a Metering Assessment must be completed for each DSR CMU Component being added to the relevant DSR CMU, and where required a Metering Test; and

(ii) where rule 8.3.4(b) applies, a new DSR Test or new Joint DSR Test must be completed for the relevant DSR CMU(s) pursuant to Rule 13.2.

during which period the relevant DSR CMU will remain a Proven DSR CMU.

Change Rule 13.2.12 from the Of12 proposal as follows:

A DSR Test Certificate issued pursuant to this Rule 13.2 will only be valid for the DSR CMU for so long as the details relating to the configuration of such DSR CMU as detailed pursuant to Rule 13.2.5 remain valid (provided that the addition of new DSR CMU Components will not be deemed to change such configuration). In the event that the DSR CMU configuration changes, such DSR CMU will be deemed to be an Unproven DSR CMU, subject to Rule 8.3.4(g), until such time as a new DSR Test Certificate has been issued.

Note that the text in red is not new: it's a reversion to what's in the current version of the rules: it was clearly realised when the rules were originally drafted that adding components to a CMU cannot reduce its capability, so should not trigger the need for a new DSR Test. For completeness, the same proviso should also be added to Rule 13.2.14:

A DSR Test Certificate will be invalidated if the Metering Test Certificate for a DSR CMU specifies a different metering configuration for any DSR CMU Component comprised in the DSR CMU than that specified in the DSR Test Certificate (provided that the addition of new DSR CMU Components will not be deemed to change such configuration).

To prevent DSR Test Certificates from modified CMUs being carried forward between Delivery Years, change Rule 13.2.12A as follows:

Subject to Rule 13.2.12 and 13.2.14, a DSR Test Certificate issued pursuant to this Rule 13.2 will remain valid if the Applicant in respect of a DSR CMU submits an Application for the same resource in a subsequent Capacity Auction and provides confirmation in accordance with Rule 3.10.3, unless components have been added to and/or removed from the DSR CMU pursuant to Rule 8.3.4 since the DSR Test Certificate was issued.

and make the same change to Rule 13.2B.18A:

Subject to Rule 13.2B.12 and 13.2B.15, a DSR Test Certificate issued pursuant to this Rule 13.2B will remain valid if the Applicant in respect of a DSR CMU submits an Application for the same DSR CMU Components in a subsequent Capacity Auction and provides confirmation in accordance with Rule 3.10.3 for each of the DSR CMUs that were nominated for this Joint DSR Test, unless components have been added to and/or removed from any of those CMUs pursuant to Rule 8.3.4 since the DSR Test Certificate was issued.

We **recommend** that these changes to Of12 be adopted.

1.2 Component-level termination (CP180)

This proposal from E.ON has merit: if an irreparable problem arises with a component, it is better for system reliability, and hence for consumers as a whole, for the remainder of the CMU to continue to have a Capacity Obligation, and hence continue to deliver during System Stress Events, than for the whole CMU to be terminated.

The consultation paper suggests that volume reallocation and obligation transfer could help avoid termination.[23] This is not the case. These tools allow the avoidance of penalties if a System Stress Event occurs while a component is temporarily unavailable, but they will not allow the remainder of the CMU to continue if the problem with the component triggers any of the termination events in Rule 6.10. Many of these could be triggered by a problem relating to just one component.

We **recommend** that CP180 be adopted.

[23] Consultation paper, p.19.

2 Improving transparency and clarity

Ambiguous rules increase perceived risk and hence deter investment. This deterrence effect is probably stronger towards new entrants, because they will tend to lack the know-how and contacts that help incumbents deduce how to work around problems.

Similarly, transparency should be maximised so as to help new entrants understand how things work, because they are not in a position to make the same inferences as experienced participants.

2.1 Explaining prequalification decisions (CP170)

This proposal from RWE has merit. While Ofgem may wish to believe that the Delivery Body would naturally give detailed reasons for any rejected prequalification applications, last year's experience suggests that this is not the case.

Established participants with large regulatory teams who know what questions to ask are much better able to respond to a vague rejection than new entrants. In addition, we suspect that preparing a detailed reason for a rejection will lead to Delivery Body staff examining issues more closely, and hence hopefully making fewer mistakes.

We therefore **recommend** that CP170 be adopted.

2.2 Disclosing technology classes (CP213)

We agree with Ofgem's "minded to" position of accepting this proposal from Scottish Power.

However, to provide the full benefit of improved transparency, we **recommend** that the Capacity Market Registers for each of the six auctions that have already taken place should also be updated to include this information, so that analysts can track changes in the technology mix. Updating these registers should be a fairly straightforward one-time task, as the Delivery Body already has the necessary information on file, just not in the published versions of the registers.

2.3 Clarifying the "supplier letter" requirement (CP173, CP219, CP225)

These proposals from RWE, the ADE, and Centrica, all address the same issue: that no supplier is able to provide a letter verifying the net output of a generator on a Private Network, as required by Rule 3.6.1(c).

The consultation paper conflates this issue with the requirement to demonstrate connection capacity for Rule 3.6.3.[24] Rule 3.6.3(d) does make explicit provision for Private Networks, and this works. But each CMU is still separately required to comply with Rule 3.6.1(c).

[24] Comment on CP219: Consultation paper, p.11.

The consultation paper also suggests that "Rule 3.6.1 already provides an alternative way… to verify output".[25] Clause (c)(ii) does, but only for generators that happen to provide balancing services.

There is a workaround: the Delivery Body will accept a letter from the Private Network owner, because they consider them to be a supplier to the generator.[26] This workaround has been used, which is why some generators connected to Private Networks have been able to prequalify. However, this workaround:

- Is undocumented, so could disappear without warning if Delivery Body staff develop a new interpretation.
- Is not easily discoverable: you have to ask the Delivery Body the right question. This is why some new entrant generator proponents have given up.

So, while it is possible to prequalify such generators, the method to do so relies on creative interpretation of ambiguities in the rules. We should be aiming higher than this: to have rules that all participants can actually understand.

The consultation paper suggests that Ofgem has seen no evidence that this is a real problem. Arguably, the fact that three such disparate organisations are drawing attention to it could be taken as such evidence.

We therefore **recommend** that some variant on CP219 be progressed, to provide a clear path for prequalification of such generators.

2.4 Clarifying apportionment of auxiliary load (CP233)

This proposal from the ESC makes sense: it removes an ambiguity. We welcome Ofgem's "minded to" position to implement it.

2.5 Making Capacity Market Notices informative (CP216, CQ2)

The ADE's proposal is a sensible one. Capacity Market Notices at present are excessively vague. As discussed in CP216, these will lead to excessive dispatches, which will have real costs. Improving transparency will reduce these costs.

National Grid's explanations of how they issue Capacity Market Notices[27] show that they reassess their position every half-hour, deciding which settlement intervals are still at risk. Participants do not have access to such frequently updated information: the nearest equivalent are the de-rated margin forecasts, which are updated only at midday and 8, 4, 2, and 1 hours ahead of real-time.

The discrepancy in publication intervals has two effects:

[25] Consultation paper, p.9.

[26] This interpretation is possible because the Rule does not use "Supplier" as a defined term.

[27] This has been presented multiple times, including at the Electricity Transmission Operational Forum on 28 September 2016.

1. Participants will be aware of changes later than necessary, such that they may be forced to make a dispatch decision on the basis of outdated information.

2. Participants are unable to determine accurately whether conditions for each settlement period have improved or deteriorated since National Grid issued the Capacity Market Notice.

This uncertainty has different effects on different participants:

- For generators, it does not cause too much of a problem: they can dispatch themselves in response to a Capacity Market Notice. They will incur some operating costs in doing so, but these are relatively low, and they will earn energy market revenue to offset them.

- For DSR providers, it is more problematic. Their short-run marginal costs tend to be much higher than those of generators, so it is important for them to minimise dispatches. What's more, they don't earn any energy market revenue to offset the costs of a dispatch.

- For battery storage that isn't providing frequency response, it is catastrophic. Such resources are only able to respond for a limited period, so it is important that they get the timing right, so that their response helps address any actual System Stress Event. If a vague notice and outdated information lead them to respond too early, then they may have to stop responding – increasing system load – before or during the actual System Stress Event.

Improving transparency will hence improve reliability, reduce costs, and provide a more level playing field between different technologies.

We therefore **recommend** the adoption of CP216, or some variant on it that allows multi-settlement-period Capacity Market Notices, but requires all of the items listed in Rule 8.4.6(iii) to be updated half-hourly, for each affected settlement period, while the Capacity Market Notice remains in place. Alternatively, de-rated margin forecasts could be published half-hourly.

2.6 Clarity around applicability of new rules

When new rules are being introduced part way through the lifecycle of a capacity resource, it is important that there be no ambiguity about which resources are affected, and when.

In the current rule change cycle, this problem has arisen with the Government's proposed new deadlines for requesting Metering Tests. The new rules[28] introduce deadlines on 1 May and 1 June (for different types of CMU). Due to the timing of the rule change cycle and the parliamentary process, it now seems unlikely that the new rules will be in place until sometime after these deadlines have passed.

[28] 13.3.2(a) and 3.10.2.

Participants seem generally to be assuming that this means that the 1 May and 1 June deadlines will not apply for the 2017/18 Delivery Year – i.e. they will not be required to have met them.

To avoid confusion, clear guidance should be given about when new rules will take effect, or the rules should include an explicit start condition, such as "for the 2018/19 and later Delivery Years".

3 Reducing wasteful expenditure

Where the Capacity Market Rules require needless expenditure, it wastes electricity consumers' money not just by pushing up capacity prices to cover these costs but also by reducing the competitiveness of the Capacity Market. This is because excessive per-site costs lead to smaller sites being excluded from participation.

3.1 Allowing BSC metering (CP234)

We welcome the acceptance of ESC's proposal. Anything that avoids the wasteful duplication of metering will reduce costs and broaden participation.

3.2 Allowing FiT submetering (CP218)

The ADE's proposal is entirely reasonable. It makes no sense to require the installation of bespoke metering when settlement-grade metering is already in place.

While this provision may be a boon for meter manufacturers and installers, it merely increases the cost of participating, which has the practical effect of preventing smaller customers from participating. The purpose of the capacity market is to procure reliable capacity at lowest cost, which requires broad participation.

The consultation paper suggests that some FiT-accredited meters may not provide the necessary features.[29] The only features that really seems to be necessary is half-hourly metering, and some form of accreditation that provides an assurance of adequate accuracy.

We therefore **recommend** that a variant on CP218 be progressed, so that FiT-accredited meters that provide half-hourly data can be used in place of bespoke metering.

[29] Consultation paper, p.33.

3.3 Allowing submetering to be omitted in some circumstances (CP181)

This proposal from E.ON has some merit, but does not provide enough detail. The issue really comes down to the cost and inconvenience of submetering to remove the contribution of any rooftop PV which receives low carbon support.

The case for making this change is similar to that for CP218: the disproportionate cost of submetering forms a barrier to participation for smaller sites. On small sites, many years of capacity revenue may be needed to cover the metering installation costs.

We definitely consider bespoke submetering to be a barrier: in our qualification process for potential new customers, they are almost certainly disqualified if their site receives low carbon support. Exceptions are made for particularly large sites.

If CP218 is progressed, as we recommend, then the remaining problem is narrower: only those sites whose FiT metering does not provide half-hourly data. However, it would still be worthwhile addressing such sites.

The consultation paper suggests that failing to submeter the low carbon generation could lead to "cumulation of State Aid".[30] For sites that will form part of a DSR CMU, we do not believe this to be the case. This is because the performance of the site is measured relative to a baseline. The output of rooftop PV cannot be controlled for Capacity Market purposes, so there is no reason to expect it to be producing greater output during a System Stress Event than during the historic intervals that set the baseline against which performance is measured. Hence we should not expect rooftop PV to contribute positively to measured performance. What's more, due the volume of PV already on the system, System Stress Events are unlikely to occur when conditions are right for high levels of PV output, so it is more likely that any unmetered rooftop PV will contribute negatively to the DSR CMU's performance.

The size of any remaining errors can be kept to a negligible level by only allowing submetering to be omitted if the maximum output of the rooftop PV is small relative to the site's load. A 5 kW PV system on a 200 kW site cannot possibly have a material impact, whereas a 20 kW system on a 50 kW site perhaps could.

We **recommend** that a variant of CP181 be progressed, alongside CP218, such that sites that have generation that receives low carbon support, but whose FiT metering cannot be used to exclude any contribution from that generation, are allowed to participate in DSR CMUs without installing bespoke metering to exclude the low carbon generation, so long as the rated maximum output of the low carbon generation is less than 10% of the site's maximum load.

[30] Consultation paper, p.9.

4 Avoiding introducing new barriers

Some market participants inevitably seek reforms which would introduce barriers for new entrant technologies. It is also possible to introduce them by accident. Both should be resisted.

4.1 Making testing much more expensive (CP163-164, CP204, CP209, CP210-212)

We welcome the rejection of these proposals from Engie, UK Power Reserve, and Scottish Power. They were clearly intended to erect a barrier to participation by batteries, and did it rather inelegantly by introducing an arbitrary time threshold.

These proposals would also have had the unfortunate side-effect of deterring many customers from providing DSR: unlike batteries, DSR can respond for extended periods. However, some customers incur substantial costs in doing so. During an actual System Stress Event, this is justifiable, and tolerated by customers. Having to do so merely to clear an arbitrary administrative hurdle, however, would severely deter participation.

4.2 Imposing new restrictions on DSR (CP239-240)

These proposals from Scottish Power were straightforward attempts to limit competition from DSR in future auctions, so as to increase clearing prices for incumbent generators. Ofgem is right to reject them.

4.3 Adding complexity and restrictions for balancing services (Of14)

Of14 is clearly intended to do the right thing: ensure that any resource that provides balancing services can be rewarded for its performance in the Capacity Market, to the extent that it reduces the need for other capacity to be procured. However, it falls short of achieving this in two ways:

1. The proposed testing methodology for dynamic frequency response providers is extremely elaborate – and hence costly to administer – and seemingly entirely unnecessary. Before National Grid procures frequency response from a facility, it has to pass a battery of tests to prove its capability. Thereafter, its performance is continuously monitored. This is because National Grid has to be sure that it can be relied upon. If National Grid is convinced that a resource is providing frequency response services, then their assessment should suffice for Capacity Market purposes, too.

2. Of14 introduces a new assumption that a customer will be working with the same aggregator for both balancing services and the Capacity Market. This assumption has not previously been made. Introducing such bundling would unnecessarily restrict competition. These changes cause the problem:

- Proposed rule 14.5.9 refers only to the Capacity Provider contracting to provide a Relevant Balancing Service.
- Proposed rules 3.4.10 and 14.5.9 require the Capacity Market Applicant to provide a copy of the Relevant Balancing Service Contract. It is very unlikely that an aggregator will be able to obtain a copy of the confidential contract between another aggregator and National Grid.

We therefore **recommend** that National Grid's acceptance of balancing services should constitute evidence of capability for Capacity Market purposes, and that customers should remain free to choose different aggregators to represent them in different markets.

4.4 Failing to support future balancing services (CQ3)

We agree with the proposition in CQ3 that Schedule 4 is overly specific, and hence fragile. This is particularly problematic given National Grid's stated intention to overhaul completely the definitions and procurement processes for their ancillary services products. We can see two alternative ways to address this:

1. Move the definitions that are vulnerable to changes in product definitions and contractual language into some other document which can be updated more speedily (i.e. without involving Parliament).
2. Make provision in Schedule 4 for "other balancing services", using more generic terminology such that National Grid can then define the required terms in their new contracts or programme rules.

We **recommend** the second path, as it seems the most straightforward.

5 Improving efficiency

Where an aspect of the rules constrains participants' actions, this has consequences, generally in the form of increased costs or lower levels of participation. Where the benefits of these constraints don't clearly exceed the costs, they should be removed.

5.1 Removing an arbitrary ban on DSR Tests at certain times (CP186)

This proposal from E.ON would be an obvious improvement.

The restriction does cause problems: as discussed on p.7, DSR Tests can take a long, and somewhat unpredictable, time to complete. So far, Prequalification Assessment Windows for T-4 and T-1 auctions have been simultaneous, and have been shortly before the start of the Delivery Year, such that the other deadlines have tended to be the binding constraint that determines the date by which the components of each DSR CMU must be finalised. However, there is no guarantee

that this will aways be the case: the rules allow for separate Prequalification Assessment Windows for different auctions, and for them to be longer or earlier, such that this arbitrary ban would cause considerable inconvenience by preventing DSR Tests at crucial times.

The consultation paper suggests that Of12 provides more opportunity for DSR Tests, because they can take place during the Delivery Year.[31] This does not help, as new DSR CMUs still need to complete DSR Tests before the beginning of the Delivery Year. On the contrary, if Of12 were to be implemented as proposed (which we don't recommend), these restrictions would become even more problematic: they would make it impossible at certain times of year to complete a DSR Test in the required period after giving notice of a component change, which would lead to termination of the Capacity Agreement.

No reason has been given for this restriction. It seems entirely arbitrary. The default position should be to remove it unless convincing evidence is provided that it is necessary.

It is possible that the intention of this restriction is to reduce the Delivery Body's workload. If this is the case, then to justify the ban it would be necessary to show that the restriction reduces the Delivery Body's staffing costs by more than the additional costs that the reduction in flexibility imposes on all DSR providers. No attempt seems to have been made to do this.

We therefore **recommend** that CP186 be progressed.

5.2 Reducing turnaround time for Satisfactory Performance Day tests (CP171)

We welcome Ofgem's acceptance of this proposal from RWE. This should ensure that any calculation errors by the Delivery Body can be spotted and corrected in good time, and, where a CMU is found unexpectedly not to have demonstrated satisfactory performance, this can be identified while there is still time to repeat the exercise.

5.3 Reducing turnaround time for Secondary Trading Entrants (CP183)

We believe this proposal from E.ON would improve the efficiency of the market. The consultation paper suggests that the very long turnaround time is intended to reduce the Delivery Body's costs.[32] Just as with CP186, no evidence is presented to justify this claim. Since the Delivery Body is able to prequalify 50+ GW of capacity in a few weeks, it's not apparent why it should be prohibitively costly for them to process a small number of additional applications at other times in much less than three months.

We therefore **recommend** that CP183 should be progressed.

[31] Consultation paper, p.29.

[32] Consultation paper, p.15.

6 Fixing errors

Small errors in the drafting of the rules can have serious consequences, so should be fixed.

6.1 Previous drafting errors around Joint DSR Tests (CP231)

We are grateful that Ofgem is minded to accept this Energy UK proposal to fix a drafting error in the 2016 rule change cycle. We believe that the drafting labelled with CP231 in Appendix H should achieve the intended objective.

6.2 New ambiguity around Joint DSR Tests

There are some other proposed drafting changes that could have an effect on Joint DSR Tests. These changes to Rules 13.4.1B and 13.4.1C are attributed in Appendix H to CP169 and Of11 (which hasn't previously been mentioned). The specific problem is that the proposed new (b) clauses, in conjunction with current Rule 13.4.1C,[33] could be interpreted as meaning that any CMU that has undergone a Joint DSR Test with other CMUs would also have to demonstrate Satisfactory Performance Days jointly with those same other CMUs.

This is not the only possible interpretation, and we assume that it is unintentional. Such a restriction was not proposed in CP124, consulted on in last year's rule change cycle, included in last year's drafting, or mentioned in this year's consultation paper.

Such a restriction is also unnecessary: the restriction in current Rules 13.4.1C and 13.4.1D exists to prevent a CMU being used in multiple sets of Satisfactory Performance Days, supporting different sets of CMUs. An equivalent restriction is applied to DSR Tests by Rule 13.2B.15. Between them, these independent restrictions prevent any possible double-counting of CMUs.

While we would expect an aggregator who had DSR Tested several CMUs jointly usually also to want to demonstrate satisfactory performance for them jointly, this won't necessarily always be the case, and there is no need to force them to do so.[34]

We therefore **recommend** that clause (b) of proposed rules 13.4.1B and 13.4.1C be changed to read:

(b) DSR CMUs which have successfully completed a Joint DSR Test ~~as a CMU Portfolio~~; or

[33] … which Appendix H shows is proposed to be renumbered to 13.4.1D. Such renumbering would be confusing.

[34] In fact, it might be preferable if aggregators tended to choose to perform Satisfactory Performance Day tests in smaller groupings, as large-scale joint Satisfactory Performance Days might have the potential to cause problems for DNOs. There are safeguards against this for Joint DSR Tests: Rule 13.2B.6(c) obliges aggregators to notify DNOs 2 Working Days ahead of each test. There is no such obligation in advance of a Satisfactory Performance Day, and their ex-post nature would make it difficult to impose one.

6.3 *DSR Test methodology (Of14)*

The proposed drafting to introduce the new test methodologies for Of14 contains some cross-referencing errors which would prevent calculations being carried out for normal DSR Tests (except before prequalification).

We **recommend** that, if Of14 is to be implemented, these errors be corrected by changing Rule 13.2.9(iii)(aa) to read:

> (aa) in the case of the application of Rules 13.2.6(a) or 13.2.6(b), multiplying the DSR by two (using the Settlement Period or DSR Alternative Delivery Periods which evidenced the lowest DSR).

and Rule 13.2A.6(c)(i) to read:

> (I) in the case of the application of Rule 13.2.6(~~a~~b), multiplying the DSR by two (using the Settlement Period or DSR Alternative Delivery Periods which evidenced the lowest DSR).

Please note that we have further comments on Of14 on p.18.

6.4 *Metering Test request deadline*

There is an error in the Government's proposed drafting for Metering Test request deadlines. We have drawn BEIS's attention to this, but mention it here, too, in case Ofgem is in a better position to remedy it.

The policy intent seems clear:

> *"… the Government … believes that setting the metering test request deadline for Unproven DSR at 4 months prior to the delivery year is appropriate …"*[35]

In the drafting in Appendix H, the proposed change to Rule 8.3.3(e)(i), in conjunction with Rule 8.3.3(d), requires the Capacity Provider for an Unproven DSR CMU to provide a Metering Test Certificate by no later than two weeks prior to the start of the Delivery Year. Currently this deadline is one month prior – i.e. this new policy is delaying the deadline for presenting a Metering Test Certificate.

The proposed change to Rule 13.3.2(a) is consistent with the policy intent: clause (i) introduces a deadline to request the Metering Test by four months before the start of the Delivery Year.

The inconsistency is in the proposed new wording of Rule 3.10.2. The current version sets a one month deadline for completing the DSR Test, the Metering Assessment, and the Metering Test. The proposed new version keeps the one month deadline for completing the DSR Test, and gives a four month deadline for completing the Metering Assessment and **completing** a Metering Test. The error seems to have arisen because the word "complete" is in the preamble, and hence gets applied to all three items.

We **recommend** that this inconsistency be avoided as follows:

[35] BEIS, Government Response to Capacity Market consultation letter, 22 March 2017, p.10.

Each Applicant for an Unproven DSR CMU must confirm that it will, ~~complete~~ in relation to that CMU:

(a) no later than the date falling one month before the commencement of the Delivery Year to which the Capacity Auction relates, complete a DSR Test or Joint DSR Test; and

(b) prior to the date falling four months before the commencement of the Delivery Year to which the Capacity Auction relates:

(i) complete a Metering Assessment (including providing line diagrams as described in Rule 3.9.4(a)(i)); and

(ii) if required, notify the CM Settlement Body that it requires a Metering Test to be carried out with respect to that CMU.

The words added to clause (b)(ii) are not new: they are simply copied from Rule 13.3.2.