

# Assessment Procedure Consultation Responses

## P344 'Project TERRE implementation into GB market arrangements'

This Assessment Procedure Consultation was issued on 23 February 2017, with responses invited by 5pm Tuesday 14 March 2017.



### Phase

Initial Written Assessment

Definition Procedure

Assessment Procedure

Report Phase

Implementation

### Consultation Respondents

Respondent	No. of Parties/Non-Parties Represented	Role(s) Represented
Centrica	2/0	Generator, Supplier
Drax Power Limited	1/0	Generator
EDF Energy	2/2	Generator, supplier, ECVNA, MVRNA
EnerNOC	0/1	Aggregator
Flexitricity Ltd	0/1	Aggregator/Non-BM Balancing Services Provider
IMServ Europe	0/1	Supplier Agent (HHDA)
National Grid	1/0	Transmission Company
Npower Group PLC	3/1	Generator, Supplier, Non-Physical Trader, Supplier Agent
Origami Energy Ltd	0/1	Aggregator
REstore	0/1	Aggregator
RWE Supply and Trading GmbH	2/2	Generator, Non-Physical Trader, ECVNA, MVRNA
ScottishPower	3/2	Generator, Non-Physical Trader, Supplier, ECVNA, MVRNA
SmartestEnergy	1/0	Supplier
SP Dataserve	0/1	Supplier Agent (HHDA)
The Association for Decentralised Energy	0/1	Trade Association
TMA Data Management Ltd	0/1	Supplier Agent (HHDC, HHDA, NHHDC, NHHDA, MOA)
UK Power Reserve	1/0	Generator
Uniper UK Limited	3/2	Generator, Interconnector User, Non-Physical Trader, ECVNA, MVRNA

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<b>Respondent</b>	<b>No. of Parties/Non-Parties Represented</b>	<b>Role(s) Represented</b>
Welsh Power	0/1	Embedded Generator

Question 1 (Customers and Aggregators): Do you believe it would be appropriate for the P344 solution to remove constraints and allow aggregators/customers to participate in the Balancing Mechanism?

## Summary

Yes	No	Neutral/No Comment	Other
13	2	3	1

## Responses

Respondent	Response	Rationale
Centrica	No (noting in favour of BM participation)	Removing constraints to allow aggregators/customers to participate in the Balancing Mechanism should be the ultimate objective as this will enable Grid to access the widest range of generators to balance the system. We would like to see this implemented in the most efficient manner. The P344 solution could form the basis for allowing BM participation for aggregators/customers, but P344 should primarily focus on delivering the GB implementation of TERRE. We do not want any undue delays to full BM participation for aggregators/customers, but would like to make sure that this is implemented in a robust manner and is not driven by external TERRE deadlines.
Drax Power Limited	Yes	Any party to the BSC, regardless of being categorised as a full or lite user, should still be subject to an appropriate level of obligations and contribute to a corresponding level of costs. There should be no free ride when participating in the Balancing Market (BM).
EDF Energy	Other	<p>We support a level playing field for providers of equivalent balancing services to NGET. We support review of barriers to participation in the Balancing Mechanism and removal of unreasonable barriers that are found. Subject to proper review these might include:</p> <ul style="list-style-type: none"> <li>• Reduction in certain BSC participation charges;</li> <li>• More explicit separation of responsibilities and liabilities relating to the provision of balancing services by Balancing Service Providers (BSPs) from those relating to parties taking responsibility for imbalances</li> </ul>

Respondent	Response	Rationale
		<p>(Balancing Responsible Parties, BRPs).</p> <p>However:</p> <ul style="list-style-type: none"> <li>• The activities of aggregators should not materially increase costs for suppliers and their customers, and particularly the costs for other customers who are not involved in aggregation.</li> <li>• All BSPs should be required to provide reference levels of flow at gate closure against which balancing actions are measured and capability and delivery can be monitored.</li> <li>• All BSPs should be required to provide basic information on the location and physical characteristics of service provided, so that NGET can properly forecast the system impacts of actions it takes.</li> <li>• Each BRP should be able to identify the BSPs providing balancing services to NGET from within its portfolio and the volume impact on it of actions instructed by NGET, so that it can estimate the impacts on the flows for which it is responsible under the BSC, and on its wholesale balancing requirements and customer revenues.</li> <li>• There must be practical limits on the minimum individual size that can be accommodated (noting that TERRE sets a minimum balancing size of 1 MW), and the total number of BM participants that can be accommodated, to ensure the central systems remain operable at reasonable cost, at least until the costs and impacts on NGET BM and BSC systems can be assessed and implemented.</li> </ul>
EnerNOC	Yes	<p>As discussed at length in the Ofgem/BEIS Smart Flexible Energy System call for evidence, and responses to it, customers currently have no route to offer their flexibility in the Balancing Mechanism or wholesale markets that doesn't require either the cooperation of their supplier, or for the customer to take on disproportionate risks or administrative overhead. Consideration of the incentives faced by Suppliers and customers, and observation of the experiences of other jurisdictions, show that this arrangement leads to the development of only</p>

Respondent	Response	Rationale
		<p>minimal levels of demand-side flexibility: it is only by allowing the participation of independent aggregators – i.e. aggregators who need not interact with the customer’s Supplier – that efficient levels of demand-side flexibility can be reached.</p> <p>This can also be observed in the GB market: participation is already unbundled for the Capacity Market and for Balancing Services; the level of demand-side participation in these markets, while low by world standards, is a great deal higher than in the still-bundled Balancing Mechanism and wholesale markets.</p> <p>The fundamental change that is required to allow independent aggregators to access any market is for the sale of demand-side flexibility to be unbundled from retail electricity supply. This requires two different parties to have balancing responsibility for the customer’s supply: the Supplier under normal circumstances, and the aggregator for any deviations from normal consumption patterns when instructions have been issued.</p> <p>This separation work is non-trivial, but Project TERRE cannot proceed without it. It would be wasteful to do this work for Project TERRE but not also apply it to the other still-bundled markets.</p>
Flexitricity Ltd	Yes	<p>Allowing aggregators/customers to participate in the BM will provide more options for National Grid to balance the system while giving aggregators and customers access to a market which is currently closed to them. Many customer-side options are faster, cheaper and capable of shorter delivery times than BM resources. As envisaged, TERRE will increase efficiency, security and sustainability in the GB electricity system and across TERRE participants.</p> <p>This will also provide visibility and control of the customer side of the system, which National Grid cannot access (for example, up to 2GW of triad actions can only be estimated post-event by National Grid at present). National Grid would accrue a significant benefit proportional to the uptake of BM participation by aggregators and</p>

Respondent	Response	Rationale
		customers.
IMServ Europe	No comment	No view on this
National Grid	No	<p>In the P344 Modification Proposal and Initial Impact Assessment submitted to BSC Panel #253 in June 2016, the scope of this workgroup was defined as:</p> <p><i>"to align the Balancing and Settlement Code (BSC) with the European Balancing Project TERRE (Trans European Replacement Reserves Exchange) requirements."</i></p> <p>We are therefore concerned that P344 are going beyond this scope to propose alterations for existing processes for Balancing Mechanism participation, particularly as this is primarily not a BSC issue, or is ostensibly a TERRE issue.</p> <p>However, we assume this question is included because it alludes to the concept of inextricably linking participation in TERRE with the GB Balancing Mechanism as part of the proposed P344 solution? If that is the case, we have concerns with this approach and the consequences it will have for participants in GB.</p> <p>Firstly, for smaller parties and new providers, it compels participation in two markets rather than just RR, which may not be in their interests.</p> <p>Secondly, adding additional obligations to facilitate TERRE participation for GB RR providers potentially puts them at a disadvantage to their EU counterparts, who will not have the same requirement.</p> <p>We understand the intent P344 workgroup members had in mind in considering the Balancing Mechanism and support the facilitation of aggregators and smaller parties to participate in the RR market. However we would like to highlight the distinction between ensuring a level playing field for TERRE and using existing BM processes to facilitate this in an efficient way, and facilitating access to all providers to the BM itself. We believe any proposed changes to merge the BM market with the RR market - goes above and beyond what is necessary to implement TERRE, as well as exceeding what is reasonable for P344 to consider.</p>
Npower Group PLC	Yes	Enabling customers and aggregators to directly participate in the BM through Project TERRE will broaden the range of DSR opportunities. This will

Respondent	Response	Rationale
		help to create demand for such services and enabling the GB system to become smarter and more flexible (based on equitable, competitive market principles), whilst utilising existing systems and processes.
Origami Energy Ltd	Yes	<p>We strongly support independent access to the Balancing Mechanism (BM) for aggregators/customers.</p> <p>At Origami Energy we believe that ensuring flexibility providers are able to compete effectively, on a level playing field with fossil fuel generators, in all markets (BM included) presents the largest opportunity to reduce the overall cost of the UK electricity system as the penetration of low carbon generation technology rises. Depending upon the extent of decarbonisation and the specifics of the generation mix the system value of flexibility is estimated to be up to £8bn/year by 20301. Aggregators play a vital role in offering a route to market for the flexibility of large, diverse networks of smaller electricity consuming, storing and generating assets, hence they will play a crucial role in enabling system flexibility in a cost-effective manner. Offering them access to all relevant markets is of paramount importance.</p> <p>We recognise all four key barriers identified by the ADE and echo their argument that current restrictions are preventing consumers from engaging directly in what is a valuable marketplace. The absence of DSR in the wholesale markets and BM removes an opportunity for greater competitive pressure to reduce cost to consumers.</p> <p>Whilst we are in favour of aggregators participating in the BM we'd stress that the mechanism employed to enable this must not favour current industry incumbents and suppliers and ensure a 'level playing field' (see more info below). (more info in other responses)</p>
REstore	Yes	<p>REstore warmly welcomes this initiative, and believes this is a fundamental feature of P344 and of TERRE project implementation.</p> <p>As stated in the Clean energy package, independent</p>

Respondent	Response	Rationale
		<p>aggregators must get a direct access to all segments of the European electricity market: a cross-border replacement reserve project like TERRE can therefore only be considered with this assumption.</p> <p>Also, as stated in the question, REstore supports a P344 solution that allows full participation of aggregators to the BM, and not only for TERRE.</p>
RWE Supply and Trading GmbH	Yes	The P344 solution should be compatible with the draft Electricity Balancing Guidelines which requires that the rules and terms and conditions relating to electricity balancing should ensure adequate competition based on a level playing field between market participants, including demand-response aggregators and assets located at the distribution level.
ScottishPower	Yes	<p>Yes in principle. However the solution must be:</p> <ul style="list-style-type: none"> <li>(i) cost-effective to all market participants;</li> <li>(ii) cost efficient in terms of entry costs to the Virtual Lead Party;</li> <li>(iii) obligations placed on BMUs must also be borne by Virtual Lead Party ie: level playing field – for example (a) transparency of data available to all including timely despatch data from BMRS, (b) submission of Final Physical Notifications (FPNs) (c) Half Hourly Actual Output</li> <li>(iv) Virtual Lead Party should be under a specific Grid Supply Point;</li> </ul>
SmartestEnergy	Yes (but)	<p>This question is asking two questions at the same time. It is clearly useful for the electricity network for SVA registered customers to be aggregated and to be bid into the BM. However, the service should only be provided by “aggregators” if they are paying their way and if there is a level playing field between aggregators and traditional BSC Party suppliers/generators. It is not appropriate that aggregators should just pay the marginal costs of the changes which are required to the systems. If they are becoming Parties, they should pay a fair share of the whole of the settlements infrastructure. They should also pay credit and imbalance charges and a contribution to Performance Assurance.</p> <p>Not only this, but we have concerns that the proposals as written will cause Suppliers additional</p>

Respondent	Response	Rationale
		<p>IT costs. For an example see our answer to Q9.</p> <p>Consideration also needs to be given to the fact that NGT will be investing in their systems to accommodate aggregators' bids. This would suggest that a contribution to BSUoS would be appropriate.</p>
SP Dataserve	Neutral	At this stage we would require more information and documentation on P344 and the implications it will have on our HHDA systems and processes.
The Association for Decentralised Energy	Yes	<p>The ADE supports independent access to the Balancing Mechanism for aggregators/customers and would recommend the necessary steps are taken to facilitate participation through the P344 solution.</p> <p>Currently DSR providers are not able to sell their electricity generation or demand reduction either on the Wholesale Market or in the Balancing Mechanism without going through the licenced supplier of the customer that is providing the flexibility.</p> <p>This interaction poses at least five significant and material barriers:</p> <ul style="list-style-type: none"> <li>• The suppliers most active in the Balancing Mechanism (BM) are those which operate thermal generation fleets (vertically integrated energy companies). Hence by the supplier contracting with aggregators to provide them access to the BM, the supplier would be exposing the assets of another part of their business to increased competition. Despite the suppliers' growing DSR portfolios, there is no evidence that they are providing their customers with BM access. Analysis of BM trades for the current financial year to date reveals that only five (out of over 2,000) consumption units received bid or offer acceptances (BOAs), all of which appear to relate to embedded generators owned by particular suppliers. It is notable that suppliers have had the ability to bring customers into active participation in the BM since it was created in 2001, but have not yet made use of it.</li> <li>• Some suppliers are also active in securing new DSR customers, and have a natural disincentive to support an aggregator or</li> </ul>

Respondent	Response	Rationale
		<p>another supplier working to secure DSR services for the same customers.</p> <ul style="list-style-type: none"> <li>• Certain suppliers may be the most competitive choice for supply cost, but not for demand side service value, and vice versa. By requiring these two services be bundled through a single market actor, the market design prevents competitive pressure and specialisation to the customer's benefit. A competitive market would allow the customer to procure their supply services and DSR services separately, potentially through an aggregator for the DSR services. A effective bundling requirement would contradict other parts of the electricity market: Currently, demand sites with onsite generation are not required to register the export MPAN and the import MPAN with the same supplier. This structure allows customers to choose the best supplier for each type of transaction, and is frequently used by industrial and commercial energy users</li> <li>• There is no commercial advantage for a supplier to facilitate wholesale or balancing market trades on behalf of another market player, whether another supplier or aggregator, meaning that any arrangement which depends on actions by the supplier is only likely to occur in response to regulated requirements, resulting in poor market interactions and creating costs to both regulators and suppliers.</li> <li>• In the case of customers wishing to sell their demand-side flexibility directly into the Wholesale Markets or BM, there is no clear route for them to do so as DSR providers are not recognised within the CUSC or the BSC (in contrast to traders, generators and suppliers). This restriction adds unnecessary transaction costs, and prevents larger industrial energy customers from engaging directly in this valuable marketplace.</li> </ul> <p>Prices in the Wholesale Market have previously peaked at £358/MWh<sup>1</sup>, while the BM can see prices</p>

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<sup>1</sup> APX, UK SPOT Market Price, 29 October 2014

Respondent	Response	Rationale
		<p>as high as £2,500/MWh in cases such as the Notification of Inadequate Supply Margin (NISM) last November<sup>2</sup>, and the price cap will be doubling to £6,000/MWh from 2018<sup>3</sup>.</p> <p>The absence of DSR in these markets removes an opportunity for greater competitive pressure to reduce costs to consumers. By not being able to access this value, it also places DSR providers at a competitive disadvantage in other markets, such as the Capacity Market.</p> <p>Further, we would emphasise that it is independent aggregators and direct customer participants who are responsible for the vast majority of the DSR capacity presently in the market. Only 11% of proven DSR volumes are associated with electricity suppliers, despite the suppliers having very much larger organisations and stronger balance sheets in comparison to aggregators.</p> <p>Finally, acting to provide better access for DSR into the BM will provide visibility and control of the customer side of the system, which National Grid cannot currently access (for example, up to 2GW of triad actions can only be estimated post-event by National Grid at present). This would be a significant benefit to the System Operator, which would accrue proportionally to the uptake of TERRE by aggregators and customers.</p>
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	<p>Yes, we believe firmly that removing barriers for entry to the balancing market and allowing more competition will prove to be beneficial not only to smaller parties but to the end consumer as well as the system operator who will enjoy benefits of greater competition and easier routes to accessing plant capabilities.</p> <p>We would note however the current proposals will not address the inherent flaws of the balancing market in favouring the despatch of larger traditional transmission connected generators who have traditionally seen disproportionate activity in comparison to smaller plant. The attempts to address this via EBS have not as of yet materialised and even if implemented will not fully address this</p>

<sup>2</sup> Elexon, System Price Analysis, May 2016

<sup>3</sup> Ofgem, Balancing and Settlement Code (BSC) P305: Electricity Balancing Significant Code Review Developments, 2015

Respondent	Response	Rationale
		<p>defect.</p> <p>We have seen repeatedly over periods of stress that the current balancing market arrangements can lead to severe scarcity pricing whilst the National Grid leaves parties providing ancillary services idle, unless this is address the defect of the balancing market will not allow the maximisation of the benefits of this proposal to be enjoyed.</p>
Uniper UK Limited	Yes	<p>Project TERRE requires that all potential Balancing Service Providers are able to participate. Given that the solution to P344 is to provide payments for TERRE to flow through the BSC processes, it makes sense to widen them to include those parties that would be presently regarded as non BM participants.</p> <p>We have concerns that the inclusion of non BM participants in separate arrangements would mean that effectively a two tier system would be set up with participants having different levels of rights and obligations. We have already seen this sort of inconsistent treatment happening, particularly in respect of transparency of non BM actions and prices compared to those published in respect of the BM.</p> <p>The solution is to find ways in which all participants can effectively participate in the BM and the principle of a "level playing field" should extend to all aspects of the arrangements such as transparency of information (price, volume, timing of instructions etc), obligations and rights.</p>
Welsh Power	Yes	<p>Welsh Power recognises that there are a number of technical and contractual issues that may need to be resolved to facilitate all customers and aggregators participating in the BM. However, in principle, a better way needs to be found to allow full market access for those who wish to participate in the BM, which include smaller generators as well as customers via aggregators. While it is easier to conceptually see smaller generators being able to offer RR within the BM framework, that framework is not fit for this purpose at the current time.</p> <p>We believe that the BM architecture (EBS) needs to</p>

Respondent	Response	Rationale
		<p>be implemented and fully tested to ensure that it can treat market participants fairly irrelevant of size and type. We believe that market access for smaller parties needs to be on a more aggregated scale, allowing the SO access to the products it needs to balance economically and efficiently. While resolving market access seems like a perquisite of TERRE implementation, this modification does not seek to make these fundamental changes and we therefore hope an appropriate modification is forthcoming shortly.</p>

Question 2 (Customers and Aggregators): The Workgroup proposes to use the term “Virtual Lead Party” for a customer or aggregator who bids flexibility into TERRE without supplying electricity to (or buying electricity generated at) the premises in question; and “Virtual BM Unit” for a collection of Metering Systems registered by such a party for the purposes of participating in TERRE. Do you agree that this is appropriate terminology (and if not what alternative would you suggest)?

## Summary

Yes	No	Neutral/No Comment	Other
15	3	1	0

## Responses

Respondent	Response	Rationale
Centrica	Yes	We have no objection to the proposed terms.
Drax Power Limited	Yes	Yes this seems sensible.
EDF Energy	Yes	These terms reflect the fact that such a party is not a ‘host’ BSC Party responsible for boundary meters and standard ‘host’ BM Units together with the imbalance settlement and other payments associated with the relevant flows within and outside the BSC. Its BM Units are made up entirely of parts of one or more actual host BM Units, for the convenience of offering, activating and settling balancing actions in the same manner as actual BM Units.
EnerNOC	Yes	Yes, it seems a workable terminology.
Flexitricity Ltd	Yes	The term is appropriate – the concept of a “virtual power plant” is already recognised, while the term “non-BM” is contradictory, as the consultation notes.
IMServ Europe	Yes	
National Grid	Yes	We agree that this is appropriate terminology.
Npower Group PLC	Yes	The concept of a virtual BM provides a clear indication for the role of the Virtual BM Unit (VBMU) and Virtual Lead Party, and provides context and certainty that participation within the replacement reserves market is transparent, accountable and liable to the similar rewards and penalties as other BSC parties.
Origami Energy	Yes	

Respondent	Response	Rationale
Ltd		
REstore	Yes	The "Virtual BM unit" that is proposed is elegant, in the sense that it allows a quick implementation, without having to deeply review the BSC. As long as the "virtual" status of such BM units does not bring any limitations in participation to TERRE and the rest of the BM, REstore sees only advantages in this solution.
RWE Supply and Trading GmbH	Yes	We agree with the proposed terminology under P344. The concepts developed by the working group facilitate the participation of customers and aggregators in the TERRE processes using the same approach as those applying to existing balancing resources.
ScottishPower	Yes	
SmartestEnergy	No	<p>Without wishing to sound deliberately controversial we would say that "Flexibility" is not really a thing and certainly not a product in itself which can be traded. Flexible power exists and this is measured in terms of energy as a tradable product. It is important that aggregators are not able to become suppliers/generators via the back door which these proposals seem to allow because in reality flexibility is inextricably linked to the energy.</p> <p>If a new "aggregator" role is being created it should be recognised as such as a new BSC Party type. "Flexible Energy Aggregator" would be more appropriate terminology as this describes the intended role. However, in our view, it would be more appropriate for such a role to be covered with a supplier role and a supplier licence; in 2001, SmartestEnergy started business as an aggregator of embedded generation but the licence and the BSC role was that of a supplier.</p>
SP Dataserve	Yes	Agree that the terminology is appropriate
The Association for Decentralised Energy	Yes	<p>The ADE supports this terminology.</p> <p>The concept of a "virtual power plant" is already recognised, while the term "non-BM" is contradictory, as the consultation notes.</p>
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	We agree with this terminology.
Uniper UK Limited	No	Although not the most important consideration, it's

Respondent	Response	Rationale
		not clear that this explains what the BMU is doing. What this is effectively doing is splitting the BMU role into that of Balancing Responsible Party and Balancing Services Provider. Perhaps something such as "Service Provider Lead Party" and "Balancing Responsibility Lead Party" would make the distinction clearer?
Welsh Power	No	<p>Welsh Power believes that this terminology should work. However, it would appear to create a difficult relationship between the customer, the aggregator and the supplier. Whether this creates a risk to the aggregators role needs to be considered, but we are not best placed to quantify the commercial risks between these parties.</p> <p>We would like to see the concept of virtual BMUs extended to allow smaller parties to sit within the BM framework, directly competition with the larger parties not only to provide RR, but other energy services. We believe Ofgem need to consider full market access as part of the developments that should run in parallel to the TERRE project.</p>

Question 3 (Customers and Aggregators): Do you agree with the Workgroup’s approach to dividing responsibilities between Supplier and Virtual Lead Party (including in particular the proposal that trading in the wholesale markets and paying Energy Imbalance Charges should remain a Supplier responsibility)?

## Summary

Yes	No	Neutral/No Comment	Other
11	3	5	0

## Responses

Respondent	Response	Rationale
Centrica	Yes	In principle yes, subject to further consultation on the details.
Drax Power Limited	No	Whilst we agree that aggregators should make/receive payments for RR acceptances, they should also have responsibility for paying/receiving imbalance charges in relation to Project TERRE energy flows. It does not seem appropriate to split Project TERRE information and/or cash flows between different categories of user. There should be one point of responsibility for actions relating to a Virtual BMU. Please see answers to questions 6 and 7 below for further reasoning.
EDF Energy	No	<p>Provided the supplier is able to identify which of the meters registered to it are included in each Virtual BM Unit, and so can estimate the potential impact on its wholesale balancing and retail sales, the proposed separation is a pragmatic way of allocating obligations and responsibilities created by allowing a party other than the standard BSC Party registrant to transact wholesale electricity with NGET.</p> <p>We note it is also proposed that Supplier credited energy should be adjusted for the estimated volume instructed through its registered meters through Virtual BM Units, so the wholesale impacts for a supplier trading to a reference level should mostly relate to changes in expected bilateral customer revenue/payments, and impacts of balancing non-delivery on host supplier imbalance.</p> <p>We think imbalance charges for under or over-delivery of balancing instructions to the registrant of the Virtual BM Unit expected to deliver the instruction should be allocated to the registrant of</p>

Respondent	Response	Rationale
		<p>that BM Unit, in the same way that existing BSC Non-Delivery charges remain with the BM Unit registrant, unless there is agreement between the host party and the Virtual Party. This would place appropriate delivery incentives on the Virtual Party delivering the balancing energy. This may require significant change to existing BSC provisions, as described in further detail in response to question 7.</p>
EnerNOC	Yes	<p>Yes, the proposed division, as set out in Table 1, makes sense as far as it goes, subject to our comments in our response to Q7 below about non-delivery.</p> <p>The Supplier is responsible for the normal supply of the customer, including forecasting their usage, making notifications, and being exposed to Imbalance Charges resulting from their normal usage. The Aggregator only deals with the customer's flexibility.</p> <p>Since the aggregator is only responsible for the customer's flexibility, they should only be required to forecast the customer's flexibility, and make offers consistent with this forecast. It is the Supplier's job, not the aggregator's, to forecast the customer's normal demand.</p> <p>These are very different tasks: the amount of flexibility a customer has can vary quite differently from their demand level. For example, a plant may have demand that varies between 5 MW and 10 MW, depending on time of day, production patterns, or even weather, but always be able to reduce that demand by 2 MW by shutting down a particular process, so long as that process is running.</p> <p>In this case, the Supplier's job is (as it always has been) to forecast the demand (5-10 MW), and include that contribution in the FPN for the Supplier BMU in which the customer sits. The aggregator's job is work out what flexibility the customer can provide during each interval (either 0 MW or 2 MW), and to make offers for the Virtual BMU in which the customer also sits which include this. The two tasks</p>

Respondent	Response	Rationale
		<p>are independent, and there is no need for the aggregator to forecast the customer's demand to do this.</p> <p>This separation of responsibilities is best accomplished by assessing a Virtual BMU's FPNs, offers, and delivery relative to the normal usage patterns of its constituent customer sites, rather than on an absolute basis. Point 5 on p. 4 of the consultation paper is wrong on this issue:</p> <p>"In order to allow National Grid to issue MW profiles to GB BSPs, the BSPs must provide National Grid with a 'Physical Notification' i.e. the MW profile which they intend to follow in the absence of any instructions issued by National Grid. As a result, the P344 solution does not include rules for using historic data to establish a baseline demand for Demand Side Response (DSR). DSR will be measured against the Physical Notifications provided by the GB BSP (in those periods in which an RR Acceptance is issued to the DSR)."</p> <p>It is not necessary for BSPs to provide FPNs on an absolute MW basis for this purpose. Instead, National Grid can issue MW profiles on a relative basis. This way, the Virtual BMU's FPN would always be for 0 MW (unless the aggregator was using the Virtual BMU for wholesale market trading – something that it would make sense to support, as mentioned in our response to Q1).</p> <p>This is a more straightforward and internally-consistent approach that suggested in the consultation paper, as the FPNs of all BMUs will be able to be summed to give a meaningful number. Under the approach suggested in the consultation paper:</p> <p>There would be two separate forecasts of the customer's load: one included in the FPN for the Supplier BMU and one included in the FPN for the Virtual BMU. The first would be meaningful, whereas the second would have to be ignored for most purposes, to avoid double-counting (as referred to on p.37 of the consultation paper).</p>

Respondent	Response	Rationale
		<p>In addition (as obliquely referred to on p.38 of the consultation paper), there would be an incentive for aggregators to use biased forecasts for Virtual BMU FPNs, so as to avoid Non Delivery Charges. Hence some other mechanism would be needed to counteract this, adding further complexity.</p> <p>Our recommended approach does require a methodology for calculation baseline demand. However, this is not insurmountable: every successful demand response programme uses one, and baselines are already used to assess provision of STOR from demand sites. There is no need to reinvent the wheel here.</p>
Flexitricity Ltd	Yes	<p>This division of BSC responsibilities reflects the different skill sets associated with the roles of aggregator and supplier. If the aggregator took on any of those assigned to the supplier in Table 1 they would have to become a supplier, and if the supplier took the two assigned to the aggregator, the supplier would be in a position to control the customer's access to TERRE. GB market experience shows that this would result in a failure to develop demand-side TERRE capacity.</p>
IMServ Europe	No comment	No view on this
National Grid	No comment	
Npower Group PLC	Yes	<p>We accept the proposed division of responsibilities. However, we note that these responsibilities are predicated on several assumptions, such as the supplier receiving the information as to whether one of their supply customers is actively participating within the scheme and notification of the adjusted volumes.</p> <p>Given the potential impacts to the supplier's imbalance position (passing through any associated imbalance costs/benefits), it is essential that the suppliers have access to this data. One area of concern would relate to customers on existing (non-pass through contracts) who subsequently sign up with an aggregator or directly to become part of a virtual BM, whose current commercial terms do not provide the right to pass such costs or benefits through.</p>
Origami Energy Ltd	No comment	
REstore	Neutral	Regarding P344's goal to propose a solution for

Respondent	Response	Rationale
		<p>participation to TERRE project and BM in general to parties like independent aggregators, REstore supports the approach to divide responsibilities between supplier and virtual lead party. Indeed, the role of balancing service provider should be focused on the rights and obligations linked to bids offered to the TSOs on the BM only.</p> <p>However, REstore underlines that this approach, and in particular the fact the “wholesale markets and paying imbalance charges should remain a supplier responsibility”, should not be taken as a conclusion outside of the P344 proposal.</p> <p>There is indeed no reason to limit the role of independent aggregators and not allow them to value DSR on other markets like day-ahead and intraday. All markets have to be opened to independent aggregators, not just Capacity market, Balancing Market, and Frequency services.</p> <p><b>Therefore, we are ok with this approach in the limited scope of P344, but not at all as a general approach to keep independent aggregators out of wholesale markets.</b></p>
RWE Supply and Trading GmbH	Yes	We agree with the division of responsibilities under P344. The proposal would ensure that the appropriate responsibilities for balancing are applied to the relevant party (suppliers for activities in forward markets and “virtual lead parties” for activities within the balancing mechanism).
ScottishPower	Yes	
SmartestEnergy	No	We have significant concerns with regard to the proposals for imbalance. Imbalance risk does need to be transferred to aggregators if they are taking part in the BM. It is not acceptable that a Supplier would be responsible for any imbalance created in their position as a result of any TERRE actions (with the “Virtual Party” only responsible for imbalance associated with TERRE-non-delivery).
SP Dataserve	Yes	Yes
The Association for Decentralised	Yes	The ADE supports the Workgroup’s approach, except with respect to Energy Imbalance Charges

Respondent	Response	Rationale
Energy		<p>during Non-Delivery.</p> <p>Energy Imbalance Charges should normally remain the responsibility of the Supplier. However, when there has been a RR Acceptance (or a BOA) in respect of the Virtual BM Unit, it is important that the Supplier is not affected, even if the customer under- or over-delivers on the acceptance. This requires that the Supplier's imbalance position should be corrected to the baseline level – i.e. by the delivered volume, rather than by the instructed volume. Any Energy Imbalance Charges resulting from the difference between delivered and instructed volumes should be the responsibility of the Virtual Lead Party.</p> <p>Further, we would add that the notion that “wholesale markets and paying imbalance charges should remain a supplier responsibility” is a conclusion which should be rejected. There is no reason to limit the future role of independent aggregators and DSR customers, and to prevent them from receiving value for demand side services in all energy markets, including day-ahead and intraday. All markets should be open to direct DSR providers and independent aggregators, not just the Capacity Market, Balancing Market, and Balancing Services.</p>
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	<p>We agree with the separation of responsibility that has been proposed. However, we would raise the issue that the supplier of a party should not be able to block its engagement of activity with an aggregation provider, either through a direct contractual block or through soft power of levying additional charges.</p> <p>We also would highlight that it remains unclear how the relationship between the virtual lead party and the supplier/actual lead party will develop and that there remain</p>
Uniper UK Limited	Yes	This fits the role of BRP and BSP as mentioned in the response to question 2 above.
Welsh Power	Yes	For the purposes of providing RR the proposal seems sensible. However, Welsh Power believe that there is a wider role for "virtual BMUs". We would like to see all smaller parties being able to create virtual BMUs and use these to provide both RR and

Respondent	Response	Rationale
		<p>other energy (or load reduction) via the BM. As noted above, this current modification does not go wider enough to allow for changes to access in the wider GB energy arrangements. However, the TERRE solution, could be combined with more radical changes to the GB BM to better facilitate effective competition.</p>

Question 4 (Customers and Aggregators): Do you agree that the Supplier should be informed that its customer has been included in a Virtual BM Unit at the point that the Virtual BM Unit is registered?

## Summary

Yes	No	Neutral/No Comment	Other
11	5	3	0

## Responses

Respondent	Response	Rationale
Centrica	Yes	This is essential, given that the Supplier will be liable for the customer's energy imbalance.
Drax Power Limited	Yes	Yes. It is important that suppliers have visibility on any transactions that have the potential to impact their customers' energy or settlement flows. There may also be contractual obligations between customers and suppliers in regards to what information must be exchanged between the two.
EDF Energy	Yes	If a supplier is not aware of its customers that are independently providing significant balancing services to NGET, it may incur additional imbalance costs and revenue uncertainty that could increase costs for all its customers. The extent of this will depend on the predictability of flows for these customers compared with other customers.
EnerNOC	No	<p>This is a sensitive issue, as the Supplier may be competing with the independent aggregator to source flexibility, or may want to take the opportunity to dissuade the customer from providing flexibility.</p> <p>The Supplier will need to be aware of corrections made during settlement. However, to minimise competitive impacts, only essential information should be provided to the Supplier (e.g. they have no need to know which aggregator is working with the customer), and it should be provided no earlier than absolutely necessary (since there is no impact on their operations before settlement, they do not need any advance notice at the time of registration).</p>
Flexitricity Ltd	No	It is essential for free competition that the supplier is not given the opportunity for a 'soft' veto of the customer participating in Project TERRE as part of a

Respondent	Response	Rationale
		<p>Virtual BMU. This might be by forcing a change in contract terms due to the customer's participation in TERRE or a virtual BMU. It could also lead to the supplier trying to force the customer to participate in Project TERRE through the supplier rather than by themselves or through an aggregator. The customer might choose to use the supplier in this way, but this should not be forced upon the customer, either directly or through soft power.</p> <p>Additionally, vertical integration places the largest suppliers in the position of competing against their own customers for reserve services and balancing mechanism opportunities. No market participant should be privy to information about its competitors which is not available to the whole market. As the customers are competitors, there should be no special information flow that disfavours other market actors (including the customers, who do not have equivalent access to their supplier's other balancing market actions).</p>
IMServ Europe	No comment	No view on this
National Grid	No comment	
Npower Group PLC	Yes	<p>Without sufficient information providing confirmation and clarity as to which of its customers could be participating in VBM activity it would be impossible for suppliers to efficiently balance its position in forward markets.</p> <p>Under the current proposal, suppliers would have no ability to pass on any associated imbalance costs, exposing them to increased risk which cannot be mitigated, thereby increasing the cost of efficiently managing the system.</p> <p>Clarity as to the length of time the virtual BM would/could exist, would also be helpful, particularly in the event of a change of supplier.</p> <p>For completeness, a similar report should also be generated when a supplier's customer leaves the virtual BMU.</p>
Origami Energy Ltd	No	<p>Whilst we understand that it may be necessary for a supplier to be notified when a customer has been included in a Virtual BM unit, we are concerned that doing so highlights the customers in their portfolio who are willing to/actively participating in DSR. There is potential for suppliers to abuse this</p>

Respondent	Response	Rationale
		<p>position/information and pro-actively target these customers with their own DSR offerings.</p> <p>We'd welcome appropriate regulatory intervention by Ofgem to ensure this wouldn't happen.</p>
REstore	No	<p>REstore disagrees with this proposal.</p> <p>Since suppliers will get corrected from the impact of DSR activations that involve their customers, they do not have to be automatically informed that this or that client has been integrated to a virtual BM Unit.</p> <p>This proposal would give, for no justified reason, a sensitive commercial information to the supplier, who can then decide to approach the consumer to offer him another alternative.</p> <p>Identifying consumers eager to enrol in DSR programs has a commercial value in itself: it is time consuming and requires expertise, that would in this proposal be given to a competitor with no reason.</p> <p>Moreover, in the cases where the suppliers follow the behaviour of their customers at an individual level, they should have a close enough relationship to be informed by this consumer that he is going to join a DSR program.</p> <p><b>Therefore, there is no need to send this kind of information at the individual consumer level. Only an aggregated information can be given to the suppliers so they can understand the behaviour of their portfolios better, and only if proven useful.</b></p>
RWE Supply and Trading GmbH	Yes	<p>It is essential that the supplier has sufficient information to enable it to efficiently balancing its position in forward markets. We would expect that under the arrangements envisaged under P344 the appropriate party to notify suppliers is the relevant customer, since the customer responsible for the performance of balancing activities. It would be</p>

Respondent	Response	Rationale
		appropriate for suppliers to be notified once a virtual BMU is registered (as a one off event). However, there is no need to notify the supplier in relation to the performance of balancing activities by the aggregator.
ScottishPower	Yes	Yes and in addition this information should be freely available via the BMRS website or similar.
SmartestEnergy	Yes	Under the proposal as written, the supplier will need to know that its customer has been included in a VBMU in order to pass through any additional imbalance that is caused and to co-ordinate with the Data Aggregator to send the data to SVAA. This would be less important under our alternative.
SP Dataserve	No comment	N/A
The Association for Decentralised Energy	No	<p>The ADE does not agree that the Supplier should be informed, as this could damage competition and release commercially sensitive information to competitors.</p> <p>Since suppliers will be corrected from the impact of DSR activations that involve their customers, we do not believe there is any benefit to requiring their customers to inform them about their unrelated commercial arrangements.</p> <p>We are concerned that this proposal would give, for no identified benefit, sensitive commercial information to the supplier, who can then decide to approach the DSR consumer. This would create a market information imbalance between aggregators and suppliers.</p> <p>No market participant should be privy to information about its competitors, which is not available to the whole market. As the customers are competitors, there should be no special information flow that disfavours other market actors (including the customers, who do not have equivalent access to their supplier's other balancing market actions). Facilitating this form of market information asymmetry would therefore be anti-competitive.</p> <p>Identifying consumers eager and able to enrol in DSR programs has a commercial value in itself: it is time consuming and requires expertise that would in this proposal be given to a competitor for no benefit.</p> <p>Any other course of action would require clear explanation of how the benefits of reporting this</p>

Respondent	Response	Rationale
		<p>information to a supplier would be sufficient to outweigh the anti-competitive impacts.</p> <p>Further, it is essential for free competition that the supplier is not given the opportunity for a 'soft' veto of the customer participating in Project TERRE directly, through another supplier or through an aggregator. A 'soft' veto might include requiring a contract term which limits the customer's participation in TERRE or a Virtual BMU, or requiring the customer to participate in Project TERRE through the supplier. As DSR is always a 'secondary' activity for business customers, a customer's supplier could quickly create 'exclusive dealing' arrangements with customers. Exclusive dealing is a well-recognised barrier to entry and would effectively stifle the expansion and growth of a competitive DSR market.</p>
TMA Data Management Ltd	Yes	As Customers/Aggregators are not BSC Parties, it would fall on Supplier to inform the HHDA of the participation of an MPAN into a virtual BMU, preferably via electronic means. In order for that to happen, the Supplier must be informed at the point that the virtual BM Unit is registered.
UK Power Reserve	Yes	Yes, as mentioned in the workgroup this is the only means by which customers could be protected from being double counted or suppliers being exposed to unknown liabilities.
Uniper UK Limited	Yes	Suppliers need to be able to understand and manage their positions as BRP, so need to understand which of their customers are being facilitated by a third party BSP.
Welsh Power	Yes	<p>In an ideal world the supplier would have no need to know about the relationship between the aggregators and their clients. However, if the supplier is liable for imbalance changes, then it can either be told centrally or will have to rely on the customer telling them. Either way, this would appear detrimental to competition and likely to see the demise of aggregators in the market.</p> <p>As noted above, it may be possible to devise wider market changes that obviate the need for notification. For example, it may be possible to create virtual BMUs, with smart meters, that can allocate imbalance differently to a site when it is offering balancing service to when it is not (or in</p>

Respondent	Response	Rationale
		<p>predefined windows). New virtual BMUs may also be able to use operational metering for settlement purposes, where the BSC parties accept the metering is sufficiently accurate for such purposes. This may allow an aggregator or the owner of multiple small generators to take responsibility for part of a site some of the time.</p> <p>Clearly such changes require substantive system and contractual changes. However, Ofgem must not lose sight of the opportunities to increase competition and improve market access in the longer term.</p>

Question 5 (Customers and Aggregators): Do you have any particular preference on how the Supplier should receive a communication that its customer has been included in a Virtual BM Unit?

## Summary

Yes	No	Neutral/No Comment	Other
9	5	2	3

## Responses

Respondent	Response	Rationale
Centrica	Yes	The Supplier should be immediately informed by the SVAA (proposed to operate the registration process) that a customer's Metering System has been placed in a Virtual BM Unit. It will be important that this information reaches the correct team in the Supplier's organisation. Therefore the Supplier must either be able to elect who the information is sent to (or easily pull out the relevant data feed).
Drax Power Limited	Yes	The data should be provided by central systems (e.g. SVAA). This data should be sent in an .XML format.
EDF Energy	Other	<p>While Virtual BM Units are restricted to HH meters, the number will probably be relatively small initially, and it is not clear that changes to the existing MRA and ECOES registration arrangements would be justified. Registration requirements for TERRE (and embedded balancing providers in general) should be a consideration in any future development of new registration systems, for example for smart meters.</p> <p>Impact on the supplier is indirect through changes in its wholesale volume due to activation of balancing from its customers by NGET.</p> <p>At this stage, we favour a simple registration system accessible online, which maps individual meters associated with Virtual BM Units to Virtual BM Unit, Virtual Party, actual BM Unit and actual Party (and HHDA?), with registrations visible to the Virtual Party and the actual party (and HHDA?), and simple messages sent to the old/new Virtual Party and old/new actual party upon any change in registration.</p>
EnerNOC	Yes	To avoid leaking unnecessary information, bilateral communications between the Virtual Lead Party and the Supplier should be avoided, so any

Respondent	Response	Rationale
		communications should come through a central system.
Flexitricity Ltd	Yes	<p>If suppliers must be informed that their customer is in a Virtual BM Unit they should not be informed which Virtual BM Unit the customer is part of because this would mean the supplier would know which aggregator the customer has chosen. Such information would give the supplier an advantage over other participants, including those customers and their aggregators.</p> <p>Suppliers could be granted access to a list of MPANs which are part of Virtual BM Units, but which did not specifically state which Virtual BM Unit was associated with each MPAN.</p>
IMServ Europe	No comment	No view on this
National Grid	No comment	This touches on the question of whether aggregators should be fully independent, as mandating that suppliers should be informed could limit the potential for competition to exist between aggregators or suppliers in providing these services to the TSO. This issue is under consideration internally and so we are currently unable to provide a position on this question.
Npower Group PLC	Yes	<p>The supplier should receive a notification from the central systems on each occasion that a customer meter is registered* to an aggregator, de-registers or migrates to another Virtual Lead Provider.</p> <p>An electronic data file would be required in a standard format and released by event (i.e. when a customer becomes/ceases membership of a VBMU).</p> <p>The data file should explicitly and transparently show:</p> <p>(a) the date that a registration has taken place, and</p> <p>(b) the date that the VBMU (or additional meter(s)) become 'active'.</p> <p>Suppliers would also need to know each adjustment that has been made on their customer's metered volume in order to reconcile and pass on any resultant imbalance costs.</p> <p>Suppliers will also need to manage the consequences of any VBMU act on their portfolio position for the specific TERRE product period, the ramp-up and ramp-down periods as well as any</p>

Respondent	Response	Rationale
		<p>subsequent re-bounce effect (in the minutes/hours following a TERRE event).</p> <p>*The supplier should not be able to object to any such registration.</p>
Origami Energy Ltd	No	
REstore	Yes	As mentioned above we propose that the supplier gets only the data he needs to perform his processes and that this data cannot be used for commercial purposes. What the supplier needs depends on the detailed billing arrangements foreseen. Nothing more nothing less
RWE Supply and Trading GmbH	Yes	The supplier should receive a notification from the central systems on the occasion that a customer meter is registered to an aggregator. The supplier should not be able to object to any such registration.
ScottishPower	No	
SmartestEnergy	Yes	This should be communicated by Elexon to the supplier. The exact means of communication is not so important but it is important that Elexon have a process by which they are certain that the notification has been acknowledged.
SP Dataserve	No comment	N/A
The Association for Decentralised Energy	Yes	<p>We do not agree with this proposal.</p> <p>However, if suppliers must be informed that their customer is in a Virtual BM Unit, we believe they should not be informed which Virtual BM Unit the customer is part of, because this would mean the supplier would know which aggregator or supplier the customer has chosen. Such commercially sensitive information would give the supplier an advantage over other participants, including those customers, their aggregators or DSR suppliers.</p> <p>To overcome this issue, suppliers could be granted access to a list of MPANs which are part of Virtual BM Units, but which do not specifically state which Virtual BM Unit was associated with each MPAN. Any other course of action would require clear explanation of how the benefits of an alternative approach would be sufficient to outweigh the anti-competitive impacts.</p>
TMA Data	No comment	

Respondent	Response	Rationale
Management Ltd		
UK Power Reserve	No	NA
Uniper UK Limited	No	We would expect suppliers to have a better understanding of the best route. However, as we mention above, BMU level information should be provided to the wider market on the actions, volumes and prices of Virtual BM Units, equivalent to that provided on other BM Units.
Welsh Power	No	

Question 6 (Customers and Aggregators): Do you agree with the Workgroup’s proposed approach to adjusting Suppliers’ imbalance positions for the instructed volumes of any acceptances issued to their customers?

## Summary

Yes	No	Neutral/No Comment	Other
9	5	5	0

## Responses

Respondent	Response	Rationale
Centrica	Yes (but with concerns)	We accept the logic behind the approach, noting that this also implies that Suppliers and Customers will need to amend individual supply and PPA agreements.
Drax Power Limited	No	No. We believe the Virtual Lead Party (VLP) should be responsible for the imbalance position, and not the supplier. Please see below our response to question 7 for further reasoning.
EDF Energy	Yes	<p>Adjustment to a Supplier’s imbalance should reduce the wholesale impact on it of balancing energy delivered to NGET from its customers, and is consistent with the treatment of BM Units participating in the BM. Making such adjustments should reduce the opportunity for individual suppliers and/or their customers to benefit by having the same balancing energy accounted more than once in settlement. Note that such imbalance adjustment is required by articles 49, 52 and 54 of the draft Electricity Balancing Guideline (01.03.2017).</p> <p>A Supplier’s other costs and revenues will remain dependent on out-turn metered volumes associated with the relevant meters registered to it (eg. supplier’s network charges, renewables charges, EMR charges, customer tariff revenue, CfD/FITS export etc), and will be affected by customer energy transactions with NGET. Customer tariffs may change to reflect the different mix of cost and uncertainty and to avoid cross-subsidy between different customers within a Supplier’s portfolio.</p>
EnerNOC	No	<p>While the basic idea of adjusting the imbalance position is sound, there are practical problems with the proposed approach:</p> <ol style="list-style-type: none"> <li>1. As discussed in our response to Q7, the</li> </ol>

Respondent	Response	Rationale
		<p>instructed volume of any acceptances is not the relevant figure. Rather, Suppliers' imbalance positions should be corrected for the delivered volume whenever there has been an acceptance (or a non-zero FPN for the Virtual BMU, for the case where it is involved in wholesale markets). Any other approach would leave the Supplier exposed to imbalance risk through no fault of their own.</p> <ol style="list-style-type: none"> <li>2. As discussed in our response to Q3, it is inappropriate to include the normal demand for the constituent sites in the FPN for a Virtual BMU. The BMU Metered Volume should be compared against a calculated baseline, rather than against an potentially rather poorly-forecast FPN.</li> <li>3. While we agree that it is unrealistic to expect bilateral arrangements for compensation payments to be negotiated between Suppliers and aggregators, we also do not expect Suppliers and customers to be able to reach such arrangement without strong regulatory guidance. The Workgroup suggests that the compensation should reflect the Supplier's forward costs (p.48 of the consultation paper). However, since customers do not choose Suppliers on the basis of how they treat flexibility, there would little competitive pressure (except with the very largest and most sophisticated customers) for a Supplier to agree such a sensible compensation regime. We would not expect fair outcomes – avoiding introducing barriers to participation – unless the terms are completely standardised. In the approach being adopted in Germany, the compensation level is set at the retail price (less network charges and levies). In France, it is a regulatory estimate of sourcing costs. The exact level matters less than avoiding any need for negotiation.</li> <li>4. Expecting the Supplier to recover the compensation from customers will require changes to Suppliers' billing systems. It would also make matters more complicated for customers: Suppliers could expect an influx of queries about the new line item on the bill. It may be simpler (and cheaper to</li> </ol>

Respondent	Response	Rationale
		<p>implement) for the compensation to be settled centrally, with the Virtual Lead Party making the payment, rather than the customer.</p> <p>We would recommend the paper Demand Response: Clarification of the standard processes required between BRPs and independent aggregators,<sup>4</sup> published by the Smart Energy Demand Coalition, for more detail on the standardised processes required for Explicit Demand Response participation.</p>
Flexitricity Ltd	Yes	<p>We wish to see Virtual BM Units settled in exactly the same way as other BM Units. Consequently, our view on imbalance volumes is closely connected to our view on imbalance payments, where we disagree with the Workgroup's proposal.</p> <p>There are issues to resolve in the workgroup's proposed solution. In particular, demand sites with onsite generation are not required to register the export MPAN and the import MPAN with the same supplier. This structure allows customers to choose the best supplier for each type of transaction, and is frequently used by industrial and commercial energy users. It will be necessary to separate out which part of the RR Instruction to allocate to which MPAN, and thus to which supplier. A methodology will have to be defined to determine the RR volumes to associate with each MPAN.</p>
IMServ Europe	No comment	No view on this
National Grid	No comment	<p>National Grid agree that Imbalance Adjustment is something that needs to be tackled. However we believe that this should be consistent with the decisions and outcomes of the work on imbalance adjustment which is being tackled under P354. It should be considered whether it is more appropriate to tackle this as one piece of work to ensure that there is consistency between the outcomes of P344 and into P354. Of course, any interdependencies between these groups would need to be managed to ensure that the progress of either is not delayed. Key differences we have noted include the proposal for an FPN to be provided in order to provide the baseline, whether imbalance adjustment is</p>

<sup>4</sup> Available at <http://www.smartenergydemand.eu/wp-content/uploads/2015/07/SEDC-Standard-processes-required-between-BRPs-and-independent-aggregators.pdf>

Respondent	Response	Rationale
		performed based on the requested or activated volume. As there are key differences between each solution that is being proposed we believe that the reasons for the differences in each need to be understood before concluding which solution is most appropriate. Therefore we are unable to give a position on this question.
Npower Group PLC	Yes	It is critical that the appropriate incentives are borne by the provider of the relevant service to ensure that the supplier remains "whole", given the adjustments to their customers' load would be unknown to the supplier. Otherwise an Imbalance Premia could place an unavoidable risk (both in terms of scale of exposure and the number of occasions TERRE products are enacted) and cost on the supplier, and as a consequence, it's wider portfolio.
Origami Energy Ltd	No	We would echo the ADE's comments on the necessity for Ofgem to ensure that supplies are not able to use contractual terms to dissuade, prevent or disincentive their customers from providing DSR services and selling their flexibility in the Balancing Mechanism, Balancing Services and Project TERRE. Without such a regulatory intervention by Ofgem regarding these contractual arrangements, there is a significant risk that suppliers could effectively restrict competitors – both other suppliers and aggregators – from purchasing demand side services from their supply customers. If this were to occur, it would effectively force customers to bundle their demand side service provision with their supply contract and prevent the creation of a competitive flexibility market.
REstore	Neutral	REstore agrees a correction is needed, but the proposed solution to base this on the instructed volume and not the actual volume is a consequence of the poor baseline (see below). With a more accurate baseline it becomes possible to correct based on actual delivery which is a more robust solution and in-line with current practice in the other TERRE countries.
RWE Supply and Trading GmbH	Yes	The P344 approach would ensure that the appropriate incentives for efficient balancing are reflected on the provider of the relevant service.
ScottishPower	Yes	
SmartestEnergy	No	We do not agree with this. There is an assumption

Respondent	Response	Rationale
		here that the supplier has a contract in place which entitles him to pass any charges he incurs to the customer. This will probably not be the case and the supplier has no leverage.
SP Dataserve	No comment	N/A
The Association for Decentralised Energy	No	<p>The ADE does not support the proposed approach to adjusting Suppliers' imbalance positions, but recognises that the imbalance positions do need to be adjusted.</p> <p>The aim of any intervention should be to leave the Supplier largely unaffected by the customer's actions (where the customer is part of a Virtual BM Unit controlled by some other Virtual Lead Party, responding to System Operator instructions). The proposed approach does not achieve this: where the delivered volume differs from the instructed volume, the Supplier would be exposed to Energy Imbalance Charges. While it is suggested that the Supplier should recover these from the customer, in practice this would give the Supplier an excuse to discourage the customer's participation in a Virtual BM Unit.</p> <p>This is a significant but complex issue, which needs to be addressed in detail. In principle, the provider's imbalance position should be adjusted whenever the SO dispatches flexibility from any source (as it is done for BM generators now). Otherwise there are effectively two payments associated with any action (utilisation payment to consumer and cashout payment to supplier) and the system as a whole will pay the extra. Against this, the "extra" tends to be zero, as DSR providers price in the value of imbalance in their bids<sup>5</sup> A number of other factors show that taking a simplistic approach to this issue will create major market problems.</p> <p>If supplier's imbalance positions are corrected directly then suppliers will lose out, as in many cases this energy cannot be billed to the consumer as supply agreements do not include pass-through of SIP. This is because electricity supply contracts for industrial and commercial (I&amp;C) consumers are designed around the overall business, not the small subset which practices DSR. Freedom to buy energy in this way, often setting prices or price profiles well in advance, is vital for I&amp;C competitiveness in world markets. I&amp;C electricity supply agreements therefore cannot be forced to follow rapidly</p>

<sup>5</sup> Evidence provided by Welsh Power to National Grid imbalance working group, December 2016

Respondent	Response	Rationale
		<p>changing prices on Wholesale Markets or be directly tied to volatile price signals such as SIP.</p> <p>A further issue which remains unresolved in the workgroup’s proposed solution is that currently demand sites with onsite generation are not required to register the export MPAN and the import MPAN with the same supplier. This structure allows customers to choose the best supplier for each type of transaction, and is frequently used by industrial and commercial energy users. It will be necessary to separate out which part of the RR Instruction to allocate to which MPAN, and thus to which supplier. A methodology will have to be defined to determine the RR volumes to associate with each MPAN.</p> <p>One workable approach to address this issue for on-site generation could be for the Energy Imbalance Charges associated with the differences between delivered and instructed volumes to be applied to the Virtual Lead Party. This approach would settle Virtual BM Units in exactly the same way as other BM Units as we discuss in greater detail in response to Q7.</p> <p>When the SO dispatches flexibility from a non-BM provider in some way (for example by issuing a STOR call to a behind-the-meter back-up diesel generator) then current arrangements mean the supplier to this site would receive a cashout payment (System Imbalance Price, SIP) for their energy, as well as the non-BM provider receiving an energy payment for the dispatch. This is quite different to the treatment of BM generators, where the provider’s imbalance position is adjusted to account for their Balancing Services dispatch.</p> <p>Among the other difficulties which would have to be considered are VAT treatment (currently, DSR services sold to the SO are considered to be services rather than energy and so attract VAT at the full rate), non-energy charges (where DSR reduces customers’ actual energy consumption, the customers should not pay network use of system charges which they did not incur), questions of intent (reducing consumption as part of a service or as a price response can be hard to distinguish from operational reductions in consumption, which may occur at a different part of the same site) and metering (MPANs and existing Balancing Services metering are poor proxies for DSR portfolios – aggregated groups of DSR units will be made up of</p>

Respondent	Response	Rationale
		<p>many MPANs and site meters each with different responses, while within one MPAN can be a mixture of elements, some of which perform DSR and some of which do not).</p> <p>As consumers become more active participants in the energy system (e.g. by offering flexibility services to the SO) then supply contracts will evolve to better reflect this. Contracts where consumers take on the responsibility for predicting their own consumption are becoming more common; in these, residual volume is settled at some pre-agreed price (sometimes a pass-through of SIP). However, there will always be major exceptions, and in fact these may have to remain the majority if UK businesses are to be able to control their input costs over the timescales appropriate for their businesses.</p> <p>There may be a regulatory role for Ofgem to ensure that suppliers are not able to use contractual terms to dissuade, prevent or disincentivise their customers from providing DSR services and selling their flexibility in the Balancing Mechanism, Balancing Services and Project TERRE. This could be achieved, for example, by setting an unnecessarily high price for any Energy Imbalance Charges passed back by the supplier to the customer. Without such a regulatory intervention by Ofgem regarding these contractual arrangements, there is a significant risk that suppliers could effectively restrict competitors – both other suppliers and aggregators – from purchasing demand side services from their supply customers. If this were to occur, it would effectively force customers to bundle their demand side service provision with their supply contract and prevent the creation of a competitive flexibility market.</p>
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	We consider this the only route that would lead to the correct adjustment of energy flows. We would highlight however it remains to be seen how suppliers will respond to this form of activity on behalf of the customers and that attempts to curtail involvement with aggregators should be monitored.
Uniper UK Limited	Yes	This seems appropriate.
Welsh Power	Yes	The outlined approach seems sensible.

Question 7 (Customers and Aggregators): Do you agree with the Workgroup that Energy Imbalance Charges arising from Non-Delivery should be charged to the Supplier (like all other Energy Imbalance Charges), rather than the Virtual Lead Party?

## Summary

Yes	No	Neutral/No Comment	Other
6	8	4	1

## Responses

Respondent	Response	Rationale
Centrica	Yes (but with concerns)	We have some concerns about the need to put in place the mechanisms to handle these in PPAs in the timeframe available.
Drax Power Limited	No	<p>No, we believe that energy imbalance charges arising from non-delivery should be charged to the VLP. The VLP will then be able to settle these charges directly with the customer. Under the Original Proposal, suppliers will be expected to set up new contractual arrangements with customers intending on engaging with the TERRE process in order to settle imbalance charges as a result of non-delivery. This will be onerous on the supplier, particularly if they have no wish to be involved in the TERRE process. We believe that the VLP will have better visibility of the customer profiles and are better placed to deal with this arrangement.</p> <p>This may require the VLP, and not the supplier, to have a balanced FPN position which will be adjusted for the instructed volumes of any acceptances issued to customers.</p> <p>It should be noted that a supplier can act in an aggregator/VLP role. However, some suppliers may not wish to provide an aggregator role and may wish to leave this to dedicated aggregation service providers.</p>
EDF Energy	No	<p>Methods of allocating costs to those best able to manage them are needed. The imbalance associated with under or over-delivery of a balancing action instructed by NGET should be borne by the party instructed to deliver the action, unless there is agreement with another party (eg. the host supplier) to accept the amounts.</p> <p>If accepted TERRE volumes on Virtual BM Units are paid at TERRE price (with or without Bid-Offer</p>

Respondent	Response	Rationale
		<p>Acceptances for subsequent instructions in the same manner as Bid-Offer Acceptances themselves), with host BM Unit metered volume adjusted for the instructed acceptances as proposed, then non-delivery against acceptance volumes will affect the imbalance charges associated with the host BM Unit.</p> <p>This is similar to the widespread use of MVRNs which transfer imbalance risk from the BSC Parties which have registered BM Units to other parties where imbalance is consolidated. However, MVRNs are made by mutual agreement.</p> <p>While aggregator delivery uncertainties for Suppliers remain relatively small and risks can be shared with other customers, this may be acceptable. But if volume uncertainties due to non-delivery of actions instructed by NGET are significant, other approaches are necessary. Potential growth in aggregator services indicates that a better method of allocating costs where they are incurred should be investigated and included in the proposal, for example as discussed below.</p> <p>The BSC currently settles imbalance associated with delivery errors by individual BM Units at an aggregate level of BSC Party energy account. BSC non-delivery charges are actually calculated to avoid participants benefiting from imbalance rather than delivery, when imbalance prices are more favourable than delivery costs. Metered Volume Reallocation Notifications (MVRNs) can transfer imbalance due to Bid-Offer Acceptance delivery errors to another party account (though not the BM acceptance itself and the current BM non-delivery charges). Consolidation of opposing imbalances due to over and under-delivery of balancing actions from different BM Units within a single account can reduce the credit required by individual parties, and previously when dual imbalance prices were used, could reduce the net imbalance costs.</p> <p>With single imbalance price those advantages reduce. There could be benefit in revising BSC non-delivery charges (or creating a new non-delivery charge) to include the energy imbalance associated with non-delivery and removing non-delivery volume from the volumes transferable by an MVRN. Separate changes would be required to allow willing</p>

Respondent	Response	Rationale
		<p>participants to consolidate their trading charges for credit purposes.</p> <p>This is particularly significant for Virtual BM Units (non-BM actions within a Suppliers portfolio) where a third party is taking responsibility for transacting post-gate closure balancing energy with NGET.</p> <p>Under a revised arrangement, the registrant of a BM Unit participating in the BM (including Virtual BM Units) would remain responsible for the imbalance charges associated with errors in delivery of balancing energy to NGET, as well as additional non-delivery costs as currently. This would create a clearer distinction between the activities of a Balancing Services Provider (BSP) BM Unit, and a Balancing Responsible Party (BRP) BM Unit and delivery incentives on the BSP delivering the balancing energy. It would also affect the transfer of aggregate costs for balancing to NGET through the System Operator BM Cashflow (CSOBM) for recovery through Balancing Services Use of System charges (BSUoS), and the related BSC Residual Cashflow Reallocation Cashflow (RCRC). It would include the imbalance payments associated with under or over delivery of instructed balancing actions in CSOBM/BSUoS and remove an equal and opposite amount from Residual Cashflow Reallocation (RCRC). In relation to TERRE, it could reduce the imbalance which might be experienced by Suppliers whose customers are providing services to NGET through third parties, but not delivering them accurately. It might also simplify internal accounting for existing BSC BM participant BM Units.</p> <p>Agreement to transfer imbalance responsibility associated with non-delivery to another party might be facilitated by a new type of volume reallocation notification.</p>
EnerNOC	No	<p>Such an approach would violate the principle that each participant should be responsible for risks associated with their own performance. To quote Eurelectric [with their emphasis]:</p> <p>“All players active on the wholesale electricity markets should bear the same responsibilities. Consequently <b>third party aggregators selling aggregated demand response products on these markets must be balance responsible:</b></p>

Respondent	Response	Rationale
		<p>their input should be equal to their output. If a customer reacts only partially to the third party aggregator’s demand response request, then it is <b>the aggregator who should bear the imbalance cost; it should not create additional imbalance costs for the BRP/supplier.</b><sup>6</sup></p> <p>This can be avoided straightforwardly by correcting the Supplier’s position for the <b>delivered volumes</b> during any periods for which there is an instruction, rather than for the <b>instructed volumes</b>. This is equivalent to the Supplier’s imbalance position being calculated as if the customer were consuming at its baseline level (as calculated by a baseline methodology) during any period of instruction.</p> <p>Note that this again simplifies matters: so long as Virtual CMUs’ volumes are treated as being relative to a baseline, rather than absolute, the Virtual CMU can simply be included in the normal BSC processes for energy imbalance (contrary to the suggestion on p.37 of the consultation paper), to derive the correct imbalance volumes and charges for each participant. This would mean that the Virtual Lead Party would be responsible for Energy Imbalance Charges resulting from under- or over-delivery by a Virtual CMU, and no Supplier CMU would be affected.</p> <p>The approach suggested in the consultation paper would not only violate this principle, by exposing Suppliers to risks over which they have no control, but also create a serious barrier to participation: it is suggested on p.49 of the consultation paper that the Supplier “would seek to pass on to the customer the Energy Imbalance charges associated with Non-Delivery of Acceptances by a Virtual BM Unit”. Such a liability – potentially uncapped – would scare off all but the largest, most sophisticated customers from participating. Aggregators are able to cope with this risk, because it is their core business, and they have a portfolio of customers with which to</p>

<sup>6</sup> Eurelectric, *Designing fair and equitable market rules for demand response aggregation*, March 2015, p.13.

Respondent	Response	Rationale
		achieve reliable performance in aggregate. Individual customers are not.
Flexitricity Ltd	No	<p>We believe that all BMUs should be treated in the same way, including Virtual BMUs. We do not believe that it will be efficient for the supplier to pay charges due to the activities of the aggregator, which it must then recover (or not) from the customer. The customer, in turn, must recover these costs from the aggregator. In addition to the administrative burden required to unpick this deliberate misalignment of incentives, this process again places the supplier in the centre of the aggregator/customer's activities and thus gives it unfair access to information and market power. It effectively mandates a change to contracts between supplier and customer, which will make it easy for suppliers to suppress participation or to control it. This outcome is inefficient and anti-competitive.</p> <p>If imbalance charges arising from Non-Delivery are assigned to the aggregator or direct-participant customer, then these charges follow the volumes (or lack of volumes) that gave rise to the charges in the first place. This is a far simpler way to "hold whole" the supplier, and directly incentivises 'good' delivery from the aggregator. It is also consistent with the basic design of the balancing mechanism.</p> <p>If the aggregator were to be charged the Energy Imbalance Charges it would remove the need to inform the supplier that the customer is part of a Virtual BM Unit.</p>
IMServ Europe	No comment	No view on this
National Grid	Other	Again we note the need for this part of the solution to be consistent with what is proposed as part of P354 as above.
Npower Group PLC	Yes	<p>We agree with the proposed approach, but note that this is predicated on the ability of suppliers to agree or already have contractual terms and conditions for passing on any resultant imbalances to their customers, should the customer not deliver it's specified contracted volume and expected 'shape'.</p> <p>Furthermore the specific costs associated with</p>

Respondent	Response	Rationale
		<p>VBMU non-delivery charges for the relevant balancing service should be reflected on the Virtual Lead Party (VLP).</p> <p>This could prevent a risk where customers contract with an aggregator (or other supplier to participate within a VBMU), subsequent to having signed a contract for their energy or PPA for their export. Given the intended introduction of the Project TERRE (Q 3 /4 2018)there is a high likelihood that many customers will already be supplied on a contract that does not facilitate the passing through any resultant imbalance costs.</p>
Origami Energy Ltd	No comment	
REstore	No	As mentioned above, we propose that the correction happens based on a much improved baseline (see below) and corrects the actual delivery. Therefore it is the Virtual Lead Party that assumes the Non-Delivery risk for the service he has contracted
RWE Supply and Trading GmbH	Yes	The supplier is responsible for energy balancing in the forward market. Therefore it is appropriate that the supplier is responsible for energy imbalance charges. It is the supplier account that will be long or short dependent of the volume delivered by the relevant meter. However, the specific costs associated with BM non-delivery charges for the relevant balancing service should be reflected on the Virtual Lead Party.
ScottishPower	Yes	
SmartestEnergy	No	We do not agree with this. There is an assumption here that the supplier has a contract in place which entitles him to pass any charges he incurs to the customer. This will probably not be the case and the supplier has no leverage.
SP Dataserve	No comment	N/A
The Association for Decentralised Energy	No	<p>As discussed in our response to Q6, we do not believe that it will be efficient or cost-effective for the supplier to pay charges due to the activities of the aggregator, which it must then recover (or not) from the customer, which the customer, in turn, must then recover these costs from the aggregator.</p> <p>In addition to the administrative burden this complicated arrangement produces, this process again places the supplier in the centre of the</p>

Respondent	Response	Rationale
		<p>aggregator/customer's activities and thus gives it unfair access to information and market power.</p> <p>We are concerned that it could mandate a change to contracts between supplier and customer, which could result in a 'soft' veto of flexibility provision. As highlighted in response to Q4, this outcome is inefficient, creates a risk of exclusive dealing arrangements, and is therefore anti-competitive.</p> <p>If instead imbalance charges arising from Non-Delivery are assigned to the aggregator or direct-participant customer, then these charges follow the volumes (or lack of volumes) that gave rise to the charges in the first place. This is a far simpler way to "hold whole" the supplier, and directly incentivises 'good' delivery from the aggregator. It is also consistent with the basic design of the Balancing Mechanism.</p>
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	For practical reasons, we agree with this suggestion, it would be a cleaner solution if such imbalance charges remained with the virtual lead party but we recognise this is to some extent impractical.
Uniper UK Limited	Yes	Yes, although we would note that this would create another credit exposure to the supplier which is affected by the actions of a third party – the Virtual Lead Party.
Welsh Power	No	Were the TERRE project to progress today, it would appear only possible to go forward with the pragmatic change options the working group has defined. However, we suspect that they raise competition concerns.

Question 8 (Non-Delivery): Do you agree with the non-delivery arrangements proposed by the P344 solution in that non-delivered volumes are attributable to the TERRE participant and the Supplier is exposed to the imbalance price?

## Summary

Yes	No	Neutral/No Comment	Other
7	7	4	1

## Responses

Respondent	Response	Rationale
Centrica	Yes (but with concerns)	We accept the logic behind the approach. As for Questions 6 and 7, we have some concerns around the timescales for making the necessary arrangements.
Drax Power Limited	No	No, all balance volumes should be allocated to the VLP.
EDF Energy	No	<p>Methods of allocating costs to those best able to manage them are needed. See response to question 7. Without other changes, the under and over-delivery of instructed volumes can create imbalance for a host Supplier. This is different from the BSC non-delivery charges which remain with the registrant of an instructed Virtual BM Unit. Exposing the host supplier to imbalance for Virtual BM Unit non-delivery as proposed does not provide the correct incentives for efficient balancing delivery, and alternative approaches should be identified. Exposing instructed BM Units to the current non-delivery charges is consistent with attempting to target costs on those responsible for them. Agreement to transfer imbalance responsibility associated with non-delivery to another party might be facilitated by a new type of volume reallocation notification.</p> <p>[The name of BSC non-delivery charges is misleading, because they actually seek to recover any benefit a party may obtain from an assumed imbalance arising from non-delivery, rather than the imbalance due to non-delivery itself, which is assumed to be imbalance settled at imbalance price. For example, for non-delivery of an offer where offer price is higher than imbalance price, the party would receive offer price, pay imbalance price for the shortfall, and also pay as a non-delivery charge the difference between offer price and imbalance</p>

Respondent	Response	Rationale
		price if offer price is higher, or nothing else otherwise.]
EnerNOC	No	We agree that the TERRE participant (i.e. the aggregator, in the use case we are considering) should be responsible for Non-Delivery charges. However, as discussed in our response to Q7, they should also be responsible for the associated Imbalance Charges.
Flexitricity Ltd	No	Both the non-delivered volumes and the imbalance price should fall on the aggregator/customer, for the reasons we set out in our response to question 7. All BMUs should be treated alike; inefficient administrative burden is avoided by levying all charges related to imbalance to the out-of-balance BMU; TERRE should be designed to avoid creating opportunities for abuse of market power.
IMServ Europe	No comment	No view on this
National Grid	Other	Again we note the need for this part of the solution to be consistent with what is proposed as part of P354 as above.
Npower Group PLC	Yes	It will be important to ensure that the non-delivery costs are levied in such a way that there can never be an economic gain for the Virtual Lead Party/ VBMU to under or over deliver against their accepted volumes.  We also need to understand and mitigate (through appropriate credit cover) the risk that virtual BM leads cannot default on their payments, nor as a result of their inaction cause higher costs for additional balancing actions, which would ultimately be passed on through higher BSUOS costs.
Origami Energy Ltd	No comment	
REstore	No	No see reply to previous question (Q7)
RWE Supply and Trading GmbH	Yes	We agree with the approach adopted by the P344 solution. It ensures that the appropriate economic and efficient incentives are reflected on the relevant parties.
ScottishPower	Yes	TERRE is voluntary and payments for services not delivered should be clawed back via non-delivery charges.
SmartestEnergy	No	Our preference would be for the supplier to be neutral and for the Aggregator to be exposed to the

Respondent	Response	Rationale
		imbalance.
SP Dataserve	No comment	N/A
The Association for Decentralised Energy	No	The ADE does not agree as per our response to Q6 and Q7, both the non-delivered volumes and the Energy Imbalance Charges should fall on the aggregator/customer.
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	Yes
Uniper UK Limited	Yes	This is consistent with separating the BSP and BRP roles. Essentially, Non-Delivery charges are there to ensure that non delivered actions do not provide a profit to a party if the payments made for the action are not sufficiently offset by imbalance costs charged for the non-delivery. Given that the BSP role would be failing to deliver, it makes sense to target non delivery charges at the Virtual Lead Party.
Welsh Power	Yes	For the same reasons discussed above, the solution appears pragmatic.

Question 9 (Reporting): Do you agree that the Supplier should be notified that an aggregator/customer has been despatched through Settlement reports?

## Summary

Yes	No	Neutral/No Comment	Other
9	4	5	1

## Responses

Respondent	Response	Rationale
Centrica	Yes	The Supplier must be notified given that exposure this creates.
Drax Power Limited	Yes	Yes. This will improve transparency and will give suppliers visibility of the dispatch of their customers.
EDF Energy	Yes	<p>Instructions issued to Virtual BM Units should be published on BMRS and within Settlement Data reports, as far as possible in the same manner as for BM Acceptances.</p> <p>This can be used to help verify the volume adjustments that will be made to a Suppliers meter volumes for the purpose of imbalance. Meters responding to despatch by NGET may have a different cost profile to meters not responding to NGET, and identification of which Virtual BM Units are being instructed will assist this.</p>
EnerNOC	Yes	Settlement reports may be the best way to deliver this notification. However, as discussed in our response to Q4, the information provided should be the minimum necessary.
Flexitricity Ltd	No	As we have set out above, this would give the supplier the opportunity for a 'soft' veto on the customer participating in Project TERRE through another party or directly. Suppliers will be informed that volumes of TERRE have been despatched through the volume adjustments, and all participants can see despatch instructions on all BMUs. This information should be sufficient for the suppliers.
IMServ Europe	No comment	No view on this
National Grid	No comment	
Npower Group PLC	Yes	Yes, this is essential. Without this notification there will be no verifiable means for the supplier to reconcile any imbalance and energy costs which

Respondent	Response	Rationale
		would need to be passed onto the customer. The supplier needs to be aware of the volumes instructed and delivered by the VLP and the specific MPAN(s) that made up the VBMU and MWhs or percentage contribution delivered as a result of the TERRE act.
Origami Energy Ltd	No comment	
REstore	Neutral	Based on the proposed design the billing to the consumer needs to be adapted (typically called the corrected model). Therefore the party that calculates the bill needs to obtain the data required to do so.
RWE Supply and Trading GmbH	Yes	It is important that after the event the Supplier is aware of the volumes instructed and delivered by Virtual Lead Parties. This will ensure that Suppliers can check and verify the allocated imbalance volumes.
ScottishPower	Yes	Yes and in addition this information should be freely available via the BMRS website or similar.
SmartestEnergy	Other	If the supplier is to have his volumes adjusted then it is absolutely imperative that he is notified, otherwise he would not be able to even attempt to reconcile his Settlement bill. However, we do not agree with this approach. In order to accommodate this the supplier may have to make some expensive changes to his systems even if he has no interest in aggregation.
SP Dataserve	Yes	Yes
The Association for Decentralised Energy	No	The ADE does not agree the Supplier should be notified as our response to Q6 highlights.
TMA Data Management Ltd	No comment	
UK Power Reserve	No	We are uncertain what would be the benefit of this, the supplier does not require despatch information for imbalance settlement and provision of it may constitute a loss of confidentiality of commercial information between the customer and the aggregator.
Uniper UK Limited	Yes	However, it should be all participants which are notified. Equivalent data should be made available on all BMUs, regardless of whether the role has been split between BSP and BRP, or whether the

Respondent	Response	Rationale
		roles are aggregated as one as now. This means equivalence in the items that are reported and when they are reported.
Welsh Power	No	The supplier should be able to see the despatch either via the reporting systems, its own links to the customer, or communication from the customer. In any event, the supplier can make no, or little, response until the next trading period as it cannot alter its own energy position after gate closure.

Question 10 (Reporting): Do you agree that TERRE participants should receive reports in an appropriate format such as .csv?

## Summary

Yes	No	Neutral/No Comment	Other
13	1	4	1

## Responses

Respondent	Response	Rationale
Centrica	Yes	No further comment.
Drax Power Limited	Yes	Transparency in the market is of utmost importance and therefore it is essential that TERRE participants receive timely reports in an appropriate format. It is vital that all parties involved in project TERRE, both BM Units and Virtual Lead Parties, receive the same information. This ensures one type of party is not unfairly advantaged or disadvantaged over others.  While .csv is an appropriate format, we would prefer .XML
EDF Energy	Other	Too early to say exactly which file format we will prefer. We need to see exactly what information will be provided centrally by TERRE itself or Data Transparency, and when.
EnerNOC	No	Format conversion is not difficult, so long as the formats are sane and well documented, so there is no real need to invent a new format, if it would increase implementation costs or the risk of incompatibilities. On the other hand, if the NETA format is deprecated, then it would make sense to introduce the new report in a more standard format.
Flexitricity Ltd	Yes	Either .csv or pipe separated files would both be acceptable.
IMServ Europe	No comment	No view on this
National Grid	No comment	
Npower Group PLC	Yes	Further consultation is likely to identify both the need for any additional reports and the most suitable format for those reports, both in content and frequency of reports which will need to reflect evolving VBMUs and customer, supplier, VLP relationships.
Origami Energy Ltd	Yes	

Respondent	Response	Rationale
REstore	Yes	
RWE Supply and Trading GmbH	Yes	TERRE reports should be available in a variety of reporting formats.
ScottishPower	Yes	
SmartestEnergy	Neutral	We are neutral as to format
SP Dataserve	Yes	Yes
The Association for Decentralised Energy	Yes	The ADE agrees with this proposal – either .csv or pipe separated files would be acceptable.
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	We would also seek to have information published in a more accessible means, either via the BMRS or other public information website, this would allow clearer and more accessible information on the system.
Uniper UK Limited	Yes	That would be an appropriate format for us to receive information. Wherever possible, information should be made available through the same routes and in consistent formats to existing BM reports.
Welsh Power	Yes	This would appear sensible. As we do not receive BSC reports, we leave it to those who do to comment on the detail of what they want reported. However, we would note that the wider market needs transparency over all BMU despatches and over imbalance pricing.

## Question 11 (Reporting): Are there any other specific reports that TERRE participants may wish to receive?

### Summary

Yes	No	Neutral/No Comment	Other
2	10	5	2

### Responses

Respondent	Response	Rationale
Centrica	No	We have not identified any further reports at this stage.
Drax Power Limited	No	None identified at this time.
EDF Energy	Other	None identified at this time, but see 'other comments' on reporting of interconnection capacity and utilisation.
EnerNOC	Other	We do not know yet.
Flexitricity Ltd	No	No, but if Virtual BM Units are to participate in the BM as well as TERRE they should receive the same data flows as other BM Units, not just the subset related to aggregators. This would ensure all BM participants have access to the same information to make decisions.
IMServ Europe	No comment	No view on this
National Grid	No comment	
Npower Group PLC	Yes	We would like more details about the additional reports that will likely be required as part of the next stages of the consultation.
Origami Energy Ltd	No comment	
REstore	No	
RWE Supply and Trading GmbH	No	This area may require further consideration as the central TERRE solution is developed.
ScottishPower	No comment	
SmartestEnergy	No	
SP Dataserve	No	
The Association for Decentralised	No	No. However if Virtual BM Units are to participate in the BM as well as TERRE, they should receive the same data flows as other BM Units, not just the

Respondent	Response	Rationale
Energy		subset related to aggregators. This would ensure all BM participants have access to the same information, creating market information symmetry.
TMA Data Management Ltd	No comment	
UK Power Reserve	No	NA
Uniper UK Limited	Yes	A participant should be in a position to understand the acceptances from the TERRE algorithm and process and their equivalent BM actions. This should be provided so that participants understand their own positions as well as those of the wider market in the same manner as they are presently able under the BM.
Welsh Power	No	None that we can identify.

## Question 12 (Reporting): Do you foresee any issues relating to daily invoicing as per the current BSC arrangements?

### Summary

Yes	No	Neutral/No Comment	Other
0	14	5	0

### Responses

Respondent	Response	Rationale
Centrica	No	Not at present.
Drax Power Limited	No	We see no issues associated with this from a generator/supplier perspective.
EDF Energy	Neutral	We have no issues with daily invoicing.
EnerNOC	No	We can see no reason to deviate from current arrangements: it would add complexity.  Note that, under our proposed approach (as discussed in our responses to Q1, Q3, Q6, Q7, and Q8), Virtual Lead Parties would be subject to Energy Imbalance Cashflows, and they could have Energy Contracts.
Flexitricity Ltd	No	No. As long as the TERRE participant is not generating the invoices that will be acceptable.
IMServ Europe	No comment	No view on this
National Grid	No comment	
Npower Group PLC	No	We agree it is important to ensure that the same processes are adopted regarding the virtual BM operation, as per the regular BSC processes.
Origami Energy Ltd	No comment	
REstore	No	
RWE Supply and Trading GmbH	No	The arrangements should be aligned with current practice for invoicing.
ScottishPower	No	No, current BSC arrangement is sufficient
SmartestEnergy	No	
SP Dataserve	No	
The Association for Decentralised	No	The ADE does not foresee any issues.

Respondent	Response	Rationale
Energy		
TMA Data Management Ltd	No comment	
UK Power Reserve	No	We see no issues with continuing with the existing settlement process. It will pose a slight additional burden to the provision of services where the SO operates monthly settlement currently but we consider it
Uniper UK Limited	No	It would be helpful for payments to be made on a consistent basis.
Welsh Power	No	

Question 13 (Currency Conversion): Do you agree with the Workgroup's solution that currency conversion should take place centrally and that BSP payments and Settlement should be in pounds sterling?

## Summary

Yes	No	Neutral/No Comment	Other
15	0	4	0

## Responses

Respondent	Response	Rationale
Centrica	Yes	BSP payments should definitely be in sterling so to align with everything else. Centrally hedging the fx exposure should minimise costs.
Drax Power Limited	Yes	This would be preferred.
EDF Energy	Yes	Centralised GB currency conversion with GB Balancing Service Provider TERRE submission and settlement entirely in sterling seems appropriate, at least initially. It would not be efficient for all GB parties using TERRE to support currency conversion and associated exchange rate uncertainties individually, and a centralised GB method managed by NGET or BSCCo seems sensible, at least initially. Some individual parties might wish to submit TERRE bids and be settled in Euro, but this would create considerable additional complexity when settled alongside Bid Offer Acceptances and other balancing actions settled in GBP, including multiple settlement reconciliation runs.
EnerNOC	Yes	This seems the simplest approach.
Flexitricity Ltd	Yes	Yes, this is the simplest solution and will provide certainty to GB TERRE participants.
IMServ Europe	No comment	No view on this
National Grid	Yes	National Grid's view after initial analysis is that this is the most appropriate solution for dealing with currency conversion. Further analysis is being conducted into the potential exposure due to currency volatility and the impact of this on BSUoS.
Npower Group PLC	Yes	We support the centralised approach towards currency conversion. This should enhance the efficient operation of the TERRE market and ensure that there are no significant barriers to entry related

Respondent	Response	Rationale
		to currency conversion.
Origami Energy Ltd	No comment	
REstore	Yes	
RWE Supply and Trading GmbH	Yes	We support the centralised approach towards currency conversion. This should enhance the efficient operation of the TERE market and ensure that there are no significant barriers to entry related to currency conversion.
ScottishPower	Yes	Market Participants, particularly for smaller companies currency transaction costs and the inherent currency risk may act as a barrier to entry and this is avoided by the proposed solution.
SmartestEnergy	Yes	
SP Dataserve	No comment	N/A
The Association for Decentralised Energy	Yes	The ADE agrees with the Workgroup's solution.
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	Although this will negatively impact the level playing field of competition between UK and EU operators it is significantly better to face this defect than to have the defects and added complexity and expense of currency risk in the TERRE product.
Uniper UK Limited	Yes	It helps in terms of consistency between offers and bids made into the BM and those made into TERRE. It also helps in terms of consistency in imbalance price and settlement calculations.
Welsh Power	Yes	While we recognise that somewhere in each EU energy deal a party must take currency risk, we do not feel it is appropriate to require GB energy providers to carry the risk when complying with EU rules such as these. It will be far more efficient to socialise the risk as few parties will be well placed to manage it on an hour by hour basis. Settling in Euros would also force GB businesses to have to open euro bank accounts, undertaking currency hedging, etc., all of which will add costs to their business and ultimately to GB customers bills.

Question 14 (Currency Conversion): Do you agree with the Workgroup's proposal that the exchange rate for each Settlement Day should be fixed at the day ahead stage (and not updated intraday)?

## Summary

Yes	No	Neutral/No Comment	Other
14	1	4	0

## Responses

Respondent	Response	Rationale
Centrica	Yes	This is a reasonable approach. The cost efficiency of this should be reviewed after being in operation for several months.
Drax Power Limited	Yes	There must be certainty of the exchange rate prior to bids being submitted. This will remove risk premia from pricing in relation to FX risk.
EDF Energy	Yes	<p>The workgroup should investigate and report on the potential materiality of within-day fluctuations. Initially, it should be acceptable to use a daily exchange rate fixed in advance. However, flexibility should be provided for this to be reviewed and more frequent rate-setting made if variations appear material.</p> <p>Variance from the fixed rate will cause GB providers' positions in European merit-order lists to be incorrect during the actual balancing day, with providers selected or not selected compared with actual prevailing exchange rate. This is inefficient, but will hopefully usually have relatively low materiality. GB participants could alter their sterling prices more frequently to compensate if they wished, but collective action would be necessary to avoid anomalies, and more frequent central rate-setting would be preferable if variations are or become material.</p>
EnerNOC	Yes	This is the least complex approach for participants.
Flexitricity Ltd	Yes	Yes. Setting the exchange rate day ahead is simpler than the alternatives.
IMServ Europe	No comment	No view on this
National Grid	Yes	As above (Q13)
Npower Group	Yes	Setting the currency conversion at the day ahead stage is a pragmatic approach towards managing

Respondent	Response	Rationale
PLC		the currency risk associated with TERRE.
Origami Energy Ltd	No comment	
REstore	Yes	
RWE Supply and Trading GmbH	Yes	Setting the currency conversion at the day ahead stage (perhaps the closing price) is a pragmatic approach towards managing the currency risk associated with TERRE.
ScottishPower	No	Though day ahead versus intraday would have a minimal, if any, impact on Market Participants, setting the rate close to delivery reduces the overall currency risk and that will reduce the costs of delivering TERRE, reducing overall charges to Market Participants.
SmartestEnergy	Yes	
SP Dataserve	No comment	N/A
The Association for Decentralised Energy	Yes	The ADE agrees with the Workgroup's proposal as this appears the simplest approach.
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	NA
Uniper UK Limited	Yes	Participants will want to know the principles used to set the exchange rate and be advised of its level when it is set so that they are able to understand and manage their positions. Publishing at 16.00 UK time, at the day ahead stage might be sensible.
Welsh Power	Yes	The proposal seems to offer a reasonable balance between staying close to the actual exchange rate and having a currency fix to allow parties to correctly price their RR into the GB market. Without a fixed exchange rate a party will have to add currency risk to their RR price, again adding to consumer costs and distorting competition between those with euro based business, and appropriate euro hedges, and those without.

## Question 15 (Despatch): Do you agree with the Workgroup's three proposed principles relating to despatch?

### Summary

Yes	No	Neutral/No Comment	Other
14	1	3	1

### Responses

Respondent	Response	Rationale
Centrica	Yes	We agree with the Workgroup that this is the most appropriate approach.
Drax Power Limited	Yes	The approach seems reasonably consistent with the principles of the BM.
EDF Energy	Yes	<p>But further principles required. Without prejudice to future consideration of self-despatch within balancing timescales, for the purpose of the initial GB P344 TERRE project we agree with the three proposed principles:</p> <ol style="list-style-type: none"> <li>1. Despatch of BM Units within balancing timescales will remain the responsibility of the System Operator, not GB BSPs;</li> <li>2. RR Acceptances are financially firm; and</li> <li>3. National Grid can affect an amendment to an RR Instruction by issuing subsequent BM BOAs.</li> </ol> <p>Suggested further principles:</p> <ul style="list-style-type: none"> <li>• All participating BM Units must provide a Physical Notification or equivalent against which delivery can be measured,</li> <li>• BM Units submitting bids to TERRE must seek to maintain their Physical Notification profile unchanged from that at the time of submission of such bids, noting that hourly TERRE bids include a half-hour for which Gate Closure has not occurred at the time of submission. This may force participants to choose between trading bilaterally for that half-hour or offering to TERRE, and may sterilize trading for that period or TERRE submission for that period.</li> <li>• A BM Unit which already has a Bid-Offer Acceptance from a previous period for which NGET has agreed to honour the dynamic characteristics beyond the wall as</li> </ul>

Respondent	Response	Rationale
		<p>per Grid Code BC2.7.2(b) and for which further Bid-Offer Acceptances to deviate from PN must be made to achieve this, should not submit to TERRE for relevant periods (doing so could result in a different price for the action to that on which the original acceptance was made. Alternatively, settlement rules could ensure the original price is used rather than the TERRE price).</p> <ul style="list-style-type: none"> <li>Acceptance of a GB bid by the TERRE algorithm shall be deemed to occur at the time of submission by NGET of its balancing need, as this is the information on which the TERRE bid may be accepted. Any subsequent BM Bid-Offer Acceptances should be considered to be variations to the physical position set by the accepted TERRE volume, settled at Bid-Offer Prices.</li> </ul> <p>Further work is necessary to set out the exact rules for this. Some or all of these principles will require changes to the Grid Code.</p>
EnerNOC	Yes	These principles seem workable.
Flexitricity Ltd	Yes	<p>Despatch of BM Units remaining the responsibility of the System Operator rather than GB BSPs gives the System Operator visibility of the BSPs' actions and simplifies TERRE participation for BSPs because they will continue to be despatched in the usual way.</p> <p>If RR acceptances are financially firm and amendments to RR instructions are affected by BM BOAs, then National Grid is not locked into a new method for dealing with RR Instructions that cannot be fulfilled due to local GB constraints. The system will continue to be balanced in the regular way.</p>
IMServ Europe	No comment	No view on this
National Grid	No	<p>We understand why P344 had to form these three principles (which are in essence 'assumptions') to allow our work to proceed. Recent progress in Grid Code workgroup GC0097, as well as internal developments regarding EBS dispatch, means that better information is now available which contradicts some of the specific detail set out. It also challenges principle 3 in its entirety (though this may be an interpretation issue).</p>

Respondent	Response	Rationale
		<p>We generally agree with the high level point set out in principles 1, 2 and 3. Underneath those however, we would query the need for an RR Schedule and having flexibility to <i>not</i> issue RR Instructions. We believe these concepts actually present more ambiguity to our systems rather than the flexibility which P344 naturally assumed (and which we appreciate the consideration for).</p> <p>Unless an Instruction is made, there is no way our dispatch system EBS can know the committed level for the Units in question to allow further instructions (BOAs etc.). There is currently no method (or enhancements expected) to allow 'pseudo' instructions to be made in EBS to systemically adjust a unit's position before a physical instruction can be made.</p> <p>Our intent therefore would <i>always</i> be to issue RR Instructions in line with the preceding RR Activations. These would be a MW profile including ramps, as recommended by P344, and ensures TERRE's financial firmness (as per Principle 2) is backed up with physical firmness, at least in relation to instructions issued by the GB TSO to RR providers.</p> <p>As a result, we would expect the issued RR Instructions to be sufficient for settlement purposes. This makes any additional data output for settlement, such as an 'RR Schedule', a duplication of effort. Our intention is to also publish the RR Acceptances received on or just before the time RR Instructions are issued, though this needs to be confirmed via GC0097.</p> <p>As mentioned, we agree with the intent of principle 3 in that National Grid can use the BM to make adjustments to the overall position on the system once the TERRE results have been received and providers have been instructed. However, TERRE does not permit TSOs the flexibility to adjust a provider's RR accepted position, so we would not expect to give ourselves the flexibility to do this for RR Instructions by merging them with Bid/Offer Acceptances. This then negates having to mandate</p>

Respondent	Response	Rationale
		<p>BM participation for TERRE participants as we raised in Question 1.</p> <p><i>If</i> residual balancing is needed as a result of RR Instructions no longer being needed (post-Acceptance/post-Instruction), or no longer being viable, or in the case of non-delivery; we will utilise the most economic options available to us at the time locally to affect adjustments. This may/may not be to the same party issued the original RR Instruction, which again removes the need for BM Participation for TERRE participants.</p> <p>Additionally, we would also expect TERRE participants to submit coherent parameters to avoid being accepted for unfeasible deviations to their baseline (FPN) position, causing us to have to take remedial action. We will work with participants to educate on this, and provide further information on bid formats available in TERRE which will help to mitigate this risk. Again, we appreciate the work that P344 has undertaken to set these principles out, and hope that the workgroup understands that these were always likely to be tested against the outcomes of GC0097 and how EBS dispatch will function. We believe the approach set out above presents a neater solution, though we of course understand this may impact the P344 solution and will work with you jointly to ascertain this.</p>
Npower Group PLC	Yes	In principal, we agree with the proposed principles relating to dispatch.
Origami Energy Ltd	Other	Principle 3 would require aggregators to have full access to the BM. National Grid should take necessary steps to facilitate this.
REstore	Yes	
RWE Supply and Trading GmbH	Yes	We should ensure that there is a level [playing field] for TERRE. This will result in efficient outcomes in the TERRE market and remove potential distortions in the TERRE clearing price.
ScottishPower	Yes	
SmartestEnergy	Yes	Perhaps another principle should spell out whether a generator is expected to meet the target level for the whole period or whether the correct amount of

Respondent	Response	Rationale
		energy should be delivered in the period or overall.
SP Dataserve	No comment	N/A
The Association for Decentralised Energy	Yes	<p>The ADE agrees with the three proposed principles. However, Principle 3 requires aggregators/customers to have full independent access to the Balancing Mechanism and the necessary steps should be taken to facilitate this.</p> <p>The ADE notes that any amendment of the BSC to allow independent access to the BM would be a significant change and would require broad industry cooperation and contribution to enact. One important point to note here is that the BSC is an important regulatory forum in which aggregators and industrial/commercial customers who are DSR providers, as non-BSC parties, are not able to equally participate. Even if they participate, they do not have the same level of resources or expertise as BSC parties.</p>
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	<p>We agree with the fundamental commitments of the despatch principles Grid has set out. We do consider that making despatch the role of the GB BSP would be technically much simple and bypass the need for a large amount of the systems being considered, however we acknowledge the point raised by the SO that this would reduce significantly their ability to manage the system.</p> <p>As one issue, we would ask the question of what would the SO consider as taking precedence in terms of TERRE parameters or BM parameters, would the SO issue an instruction in line with a TERRE offer when it would breach the dynamic or technical details submitted for a unit as part of its BM process. The issue of linking bids we believe needs significantly more thought and analysis, especially in light of the potential for large numbers of short instructions where MNZT and MZT will come into play.</p>
Uniper UK Limited	Yes	<p>PRINCIPLE 1: Despatch of BM Units within balancing timescales will remain the responsibility of the System Operator, not GB BSPs.</p> <p>The SO should ultimately be responsible for despatching the SO within balancing timescales, not least as it will continue to do so under the Balancing</p>

Respondent	Response	Rationale
		<p>Mechanism and these actions should be consistent with each other. More detail needs to be developed on how this is done in order to schedule ramps, how TERRE and BM actions on the same unit interact and how infeasible actions are avoided under TERRE.</p> <p>PRINCIPLE 2: RR Acceptances are financially firm</p> <p>Yes, this would retain the same principle as for BM acceptances. Imbalance prices and non delivery charges should be used to reflect under and over deliveries.</p> <p>PRINCIPLE 3: National Grid can affect an amendment to an RR Instruction by issuing subsequent BM BOAs</p> <p>This will be consistent with the treatment under principle 1.</p>
Welsh Power	Yes	<p>We agree with the principles. However, this serves to highlight the need to bring smaller parties into the BM more widely than the provision of RR. As noted above, market access needs to be addressed, but via a new modification that can more broadly look at BM issues for smaller parties.</p>

Question 16 (Customers and Aggregators): Do you agree with the Workgroup that the relationship and associated communications between the Supplier and the aggregator/customer should be facilitated, but not mandated by the BSC?

## Summary

Yes	No	Neutral/No Comment	Other
12	2	4	1

## Responses

Respondent	Response	Rationale
Centrica	Yes	Under the current proposal the Supplier and the aggregator/customer would need to amend their supply and PPA agreements. This is not something that can or should be mandated by the BSC.
Drax Power Limited	Other	It is not clear what this question is addressing.
EDF Energy	Yes	<p>Subject to the BSC rules relating to identification of relevant meters, Virtual BM Units and Virtual Parties (see response to question 5) and comments on imbalance adjustments and non-delivery (see responses to questions 6,7 and 8), we think it should be possible to manage the relationship between a Supplier and individual customers or an aggregator bilaterally. This may need to be reviewed if volumes involved become significantly larger.</p> <p>Defining mandated messages and data flows between a Supplier and a Virtual BM Unit registrant (which could be a Virtual Party associated with another Supplier) could add considerable complexity, and the benefits are uncertain. Hopefully prompt reporting on BMRS of individual TERRE acceptances and other actions taken by NGET together with settlement reporting and bilateral arrangements will provide sufficient information for host Suppliers to manage associated risks and uncertainties.</p>
EnerNOC	No	As mentioned in our response to Q6, we do not believe that any element of the interaction between the Supplier and an independent aggregator should be left to negotiation. (This extends to interactions between the Supplier and the customer that relate to the aggregator's actions.)

Respondent	Response	Rationale
		<p>Our experience in other markets shows that Suppliers have little reason to cooperate or to negotiate in good faith, and instead they tend to use the negotiation as an opportunity to block (or substantially delay, or make subject to arbitrary additional costs) the aggregator's access to the customer.</p> <p>It is this issue that led to the SEDC paper we cited earlier, and German government working to impose a completely standardised framework for Supplier-aggregator interactions.</p> <p>Therefore we recommend that any relationship and communications between the Supplier and aggregator should be completely standardised, which suggests that they should be mandated.</p>
Flexitricity Ltd	Yes	<p>The relationship between the supplier and aggregator/customer should certainly not be mandated by the BSC because it would offer the supplier a chance to veto the customer's participation. If the customer would like to inform the supplier that is their prerogative, but they should not be forced to do so through the BSC.</p> <p>The relationship does not need to be facilitated through the BSC as the customer can approach their supplier through the regular channels as necessary. By settling imbalance due to non-delivery directly with the out-of-balance Virtual BMU, the need for the BSC to intervene in this relationship is removed.</p>
IMServ Europe	No comment	No view on this
National Grid	No comment	
Npower Group PLC	Yes	<p>Management of the contractual arrangements between each supplier and their customers should remain a competitive activity and outside the scope of the Project TERRE process.</p> <p>This does however underline the need for full transparency and disclosure of the customers registered within the VBMU and the associated volumes to be dispatched and actual volumes post event. So if a customer chooses to take value from a TERRE contract by participating in a VBMU then</p>

Respondent	Response	Rationale
		they will be required to utilise the central system and will consent to the VLP sharing their demand data.
Origami Energy Ltd	No comment	
REstore	Yes	It is absolutely crucial that the customer is free to choose any path (alone, with an independent aggregator or with his current or future supplier) to valorise its flexibility. This requires that (at least as a default solution) the relationship with the supplier is facilitated as otherwise it becomes possible for the supplier to block the market
RWE Supply and Trading GmbH	Yes	TERRE is a voluntary market. Therefore the central arrangements should be designed to facilitate participation, but not mandate such participation. However, parties will be required to utilise central systems if they wish to be paid under TERRE.
ScottishPower	Yes	
SmartestEnergy	No	There should be no need for a communication to take place with the Supplier. It is not appropriate for the BSC to impose obligations on suppliers and then remain silent as to how they can recover any costs caused to them by another type of BSC Party or just assume that these costs can be recovered from customers.
SP Dataserve	Yes	Yes
The Association for Decentralised Energy	Yes	The ADE supports this proposal. The relationship between the supplier and aggregator/customer should not be mandated by the BSC because it could result in suppliers blocking the customer's participation.
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	We agree that imposing BSC mandated communication flows on the aggregator is unnecessary.
Uniper UK Limited	Yes	This will allow the market to drive the most appropriate customer/aggregator/supplier models. If these relationships do not develop in the manner expected then subsequent change/s to market arrangements could be raised.
Welsh Power	Yes	In principle we agree, but suspect that this is a difficult issue to resolve between the parties without

Respondent	Response	Rationale
		distorting competition.

Question 17 (Customers and Aggregators): Do you believe that the proposed arrangements relating to communications between the supplier and aggregator/customer would act as a barrier to participation in TERRE?

## Summary

Yes	No	Neutral/No Comment	Other
5	9	3	2

## Responses

Respondent	Response	Rationale
Centrica	No	The principle that the BSC should facilitate rather than mandate communications between supplier and aggregator/customer is the right approach.
Drax Power Limited	Other	<p>Suppliers should be given the option to keep their business model distinctly separate to that of an aggregator. As such, suppliers would then be able to choose to either (a) become an aggregator or (b) receive central data flows that informs them of the aggregator's activity in relation to suppliers' customers.</p> <p>As noted above, the aggregator should take on imbalance cash flows. The reason for this is that we believe the complexity/barriers to entry are more likely to stem from the imbalance cash flows under the proposed model (i.e. where the action is taken by the aggregator, but the cash flow is allocated to the supplier), rather than from the communication flows (which can be more easily fixed).</p>
EDF Energy	No	The proposed arrangements place no BSC obligations on aggregators or customers to obtain approval from the host supplier to register meters to a Virtual BM Unit, and no obligation to directly interact with the host supplier. The proposals would require Virtual Parties to adhere to a subset of BSC (and Grid Code) rules, and would expose them to BSC non-delivery charges, and ideally imbalance charges for under or over-delivery, but these should not be more onerous than bilateral arrangements with NGET, and certainly not more onerous than arrangements for standard BM Units. Therefore the proposed BSC arrangements should not cause any unreasonable barriers to participation in TERRE.
EnerNOC	Yes	As discussed in our response to Q16, leaving

Respondent	Response	Rationale
		aspects of the communications arrangements open to negotiation provides the Supplier with an avenue to frustrate access.
Flexitricity Ltd	Yes	The proposed arrangements give the supplier the ability to have a 'soft' veto on their customers participating in TERRE by bringing customer TERRE participation to the supplier's attention. This is especially concerning as suppliers have the ability to provide TERRE, so they could change contract parameters to influence their customers to participate in TERRE through the supplier rather than another provider, or not provide TERRE at all. The workgroup should take extremely seriously the danger of anti-competitive behaviour, and should eliminate it from TERRE by design rather than relying on regulatory intervention.
IMServ Europe	No comment	No view on this
National Grid	No comment	Relates to question about independent aggregation
Npower Group PLC	No	No, maintaining open and transparent communication on adjusted customer loads should not act as a barrier to customer and/or aggregator participation in TERRE.
Origami Energy Ltd	Yes	As above, we'd echo the ADE's comments and agree that it is vital that aggregators/flexibility providers are directly involved in the regulatory processes and decision making to ensure that rules are set up to allow all technologies and market players to compete on a level playing field.
REstore	Other (not sure)	We believe not, but the devil is in the details and therefore utter attention is required at every step to make sure that the communication aspects do not lead to undesirable outcomes (see above)
RWE Supply and Trading GmbH	No	We believe that the proposed arrangements will facilitate participation in TERRE and create a level playing field for all players.
ScottishPower	No	
SmartestEnergy	No	The proposed arrangements appear to be massively in favour of the aggregator.
SP Dataserve	No	
The Association for Decentralised Energy	Yes	As discussed in response to Q6, the proposed arrangements could give the supplier the ability to have a 'soft' veto on their customers participating in TERRE by bringing customer TERRE participation to

Respondent	Response	Rationale
		<p>the supplier's attention. This is especially concerning as Suppliers have the ability to provide TERRE, so they could change contract parameters to influence their customers to participate in TERRE through the supplier rather than another provider, or not provide TERRE at all. We would encourage the workgroup to design out any potential opportunity for anti-competitive behaviour in the design of TERRE, rather than relying on regulatory intervention. We believe such an approach could be achieved through our proposal in Q7.</p> <p>Further, it is vital that aggregators (or other distributed flexibility providers) are directly involved in regulatory processes and decision making to ensure that rules are set up to allow all technologies to compete on a level playing field. For example, in the BM, the rules allow thermal generators to define intricate physical parameters (such as warm up time or warm down times) which are taken into account for their Bids and Offers; distributed technologies have very different physical limitations so it is important that rules allow these to be recognised as well (such as an energy recovery requirement for storage technologies).</p>
TMA Data Management Ltd	No comment	
UK Power Reserve	No	We believe the current proposals leave sufficient levels of the communication between supplier and aggregator as non-mandatory BSC activities that this should not pose
Uniper UK Limited	No	This is a necessary requirement in order to make the market work appropriately. Therefore, it is not a barrier. Removing barriers doesn't mean subsidised market entry or operations, but removal of unnecessary arrangements or costs.
Welsh Power	Yes	See above. (Q16)

Question 18 (Customers and Aggregators): Do you agree that the obligations and BSC charges placed on the aggregator/customer participating in TERRE should be proportionate to the role that the customer/aggregator plays under the BSC?

## Summary

Yes	No	Neutral/No Comment	Other
14	0	3	2

## Responses

Respondent	Response	Rationale
Centrica	Yes	In principle yes – subject to the upcoming discussions on this subject in the Workgroup and reviewing the final proposal. We note that further details of the costs and rights of the TERRE participants will be included in the next round of Industry Consultation.
Drax Power Limited	Yes	Any party to the BSC regardless of being categorised a full or lite user, should still be subject to an appropriate level of obligations and contribute to a corresponding level of costs. There should be no free ride when participating in the BM.
EDF Energy	Other	<p>Separating the role of a Balancing Services Provider from that of a Supplier (or any other party) responsible for metering and all other aspects of a boundary flow should reduce the obligations on such a role. Note our comments at questions 7 and 8 in relation to imbalance caused by non-delivery of an instructed balancing action. These should be borne by the BSP.</p> <p>It is not clear what is meant by BSC charges 'proportionate to the role'. The BSC charges should try to reflect the costs that a Virtual Party/Virtual BM Unit create for the BSC arrangements. More parties and BM Units using the BSC systems should reduce the cost per party/unit up to the existing system capacity, beyond which additional costs will be incurred.</p>
EnerNOC	Yes	It is hard to disagree with proportionality.
Flexitricity Ltd	Yes	Yes. A way to make sure they are proportionate would be to have an aggregator or customer liable to more BSC charges if they are engaged in more than a certain volume of trades.

Respondent	Response	Rationale
IMServ Europe	No comment	No view on this
National Grid	No comment	
Npower Group PLC	Yes	In principle, this seems to be the correct approach.
Origami Energy Ltd	Yes	
REstore	Yes	REstore supports this proposal.  Participation to BM and TERRE should not come with additional responsibilities/obligations than the ones linked to the delivery of the requested energy.
RWE Supply and Trading GmbH	Yes	It is appropriate that those parties participating in TERRE should meet the obligations required for this service provision.
ScottishPower	Yes	
SmartestEnergy	Other	It is hard to disagree with this question but what does "proportionate" actually mean? As we have suggested above, it would be inappropriate for any of the additional costs that these arrangements incur (both developmental and on-going) to fall on traditional BSC Parties.
SP Dataserve	Yes	
The Association for Decentralised Energy	Yes	The ADE agrees the obligations and charges faced by an aggregator/customer under the BSC should be proportionate to the role that the aggregator/customer plays. Detailed consideration will be needed to ensure this balance is well struck.
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	We would highlight that this should be proportional to the use of the systems of the BM, at present there are multiple element of the BSC that are charged on a flat per unit basis that are done so regardless of scale of the unit, these should not be used to charge a 1MW unit the same costs as a 950MW unit.
Uniper UK Limited	Yes	The obligations and charges should be reflective of the role each participant performs and the costs it causes in the market as a consequence.
Welsh Power	Yes	BSC charges do create a barrier to entry. Welsh

Respondent	Response	Rationale
		Power believes that these should be reviewed to ensure that across the market they are not creating barriers to entry.

Question 19 (Customers and Aggregators): Do you agree with the Workgroup's view that geographically separate Metering Systems that fall under the same GSP Group should have the ability to be captured under a single Virtual BM Unit?

## Summary

Yes	No	Neutral/No Comment	Other
12	2	4	1

## Responses

Respondent	Response	Rationale
Centrica	Yes	This is the most logical approach and is consistent with the current arrangements for Additional BM Units.
Drax Power Limited	No comment	No comment.
EDF Energy	Yes	There could be advantages in requiring the location of a balancing service to be identified more accurately for operational purposes, for both transmission and distribution systems, in the long term. For example by electrically closest GSP. However, for the short term of the next 2-3 years for implementation of TERRE, we think ability to capture separate Metering Systems in the same GSP Group within a single Virtual BM Unit would be consistent with the current aggregation of metered flows by GSP Groups for settlement. Note that current Supplier BM Units are able to participate in the BM. Aggregation of meters in different GSP Groups would be outside all the current methods of settlement and should not be supported.
EnerNOC	Yes	To minimise complexity and maximise market access there should be fewer, larger Virtual BMUs, rather than requiring many separate ones.
Flexitricity Ltd	Yes	More specific groupings (relating to individual GSPs) could be a large barrier for aggregators or customers to overcome.
IMServ Europe	No comment	No view on this
National Grid	No	National Grid are looking into how this could work and potential implications that including separate metering systems from the same GSP group into the same unit could have. The impacts of not having locational information on these units (apart from a very broad geographical area) needs to be assessed

Respondent	Response	Rationale
		<p>further to clarify whether this will be manageable from a system security perspective.</p> <p>Once again this links into to the discussions that are currently being had in P354. P354 is currently advocating having data at the MPAN level which is a lot more specific than GSP level. Using data at the GSP level could mean that the imbalance adjustments process is a lot less accurate as it would be difficult to tell which metering point and which supplier the imbalance relates to. Futhermore this could cause issues in the future when we have Distribution System Operators and network issues must be managed at this level. There is more work needed to understand how this approach could work.</p>
Npower Group PLC	Yes	Yes, we believe that GSP groups provide a pragmatic but meaningful cluster of distinct TERRE assets that have, in aggregate the potential to contribute as a VBMU and we accept the proposal that would enable customers supplied by different suppliers to be registered within the VBMU.
Origami Energy Ltd	Yes	
REstore	Yes	<p><b>REstore strongly supports this proposal.</b></p> <p>It is of most importance to allow full aggregation possibilities, for aggregators to build portfolios with no unjustified limitation. It is indeed the main feature of independent aggregators to take together disparate sites that are not able to offer reliable bids to the TSOs, and gather them into reliable portfolios.</p>
RWE Supply and Trading GmbH	Yes	We agree that geographically separate metering systems in the same GSP Group should form the basis for Virtual BM Units. Distribution Network Operators may have a role to play in determining the nature of Virtual BM Units under the Grid Code.
ScottishPower	Yes	A Virtual BMU must be under the same GSP to allow Settlement process to run and for potential despatch if the Virtual BMU is allowed and choses to participate in the Balancing Mechanism.
SmartestEnergy	Other	We can see the advantage of this and so long as the costs of such an arrangement are fully reflected and directed towards the registrant of the VBMU

Respondent	Response	Rationale
		there can be no argument against it.
SP Dataserve	No comment	N/A
The Association for Decentralised Energy	Yes	<p>The ADE agrees with this proposal, as it is consistent with the current arrangements for Additional BM Units, which were introduced into the BSC specifically to allow Suppliers to bid into the BM with a portfolio of customers within a GSP Group.</p> <p>Further, this approach will allow full aggregation possibilities and for aggregators to build portfolios with no unjustified limitation. It is the main feature of independent aggregators to take together disparate sites that are not able to offer reliable bids to the TSOs, and gather them into reliable portfolios.</p>
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	<p>Yes, we consider this the most appropriate means to allow access to the BM and will maintain regional despatch capability for the SO. We would flag that it should be investigated how the SO will treat an aggregated VBM unit that has a single element of its make up under constraint. It would be inappropriate for example if an entire VBM was not utilised by the SO in the case that 1MW of a 100MW unit was behind a constraint. It bares further discussion on how such issues would be resolved without negatively impacting the playing field against VBMs.</p> <p>We would additionally highlight that although the SO may be aware of a restrain in a region the lead party may not be aware of this and so would be despatching plant that National Grid would not want to be utilising.</p>
Uniper UK Limited	Yes	Yes. This is driven by the BSC supplier settlement system requirements. Virtual BM Units should not cross GSP Groups.
Welsh Power	No	<p>In order to facilitate effective competition, we would like to see parties be able to create virtual BMUs that are GB wide. The GSP is a practical solution, but may not be a necessary one. Could parties not be given the right, but not obligation, to place their meters into a new registration system that they allow cross GB virtual BMUs?</p> <p>By keeping aggregation behind GSPs there will be a new incentive to locate only in certain regions, or to aggregator only certain regions, with potential</p>

Respondent	Response	Rationale
		advantages for those who happen to have ended up in a certain place. This distortion is unlikely to create a level playing field.

## Question 20 (Implementation): Do you agree with the Workgroup's recommended Implementation Date?

### Summary

Yes	No	Neutral/No Comment	Other
12	2	4	1

### Responses

Respondent	Response	Rationale
Centrica	Yes – at this stage	The Implementation Date is being driven at EU level. It is essential National Grid must keep stakeholders informed of any potential change to the TERRE go-live date. ELEXON states that it cannot yet confirm the system development and testing timescales required to implement P344. P344 should not go-live until there has been robust testing with all users.
Drax Power Limited	Yes	Participants should be allowed 12 months to implement system changes.
EDF Energy	No	We think implementation by Q3/Q4 2018 is over-ambitious given the number and nature of changes to Grid Code operational procedures and BSC settlement that are required. It is not clear that the additional costs of successfully meeting this ambitious timescale justify the benefits that the scheme will deliver during the first months of operation.  [The EU draft Balancing Guideline obligates delivery of TERRE or something like it within 12 months of regulatory approval of proposals made no later than 6 months of coming into force. A more realistic timescale implementing in 2019 would satisfy the regulation if its coming into force is further delayed or if regulatory approval takes more than 3 months (at least GB and France).]
EnerNOC	Yes	It makes sense to aim to have Project TERRE go live in GB at the same time as in other jurisdictions. In addition, customer access to the Balancing Mechanism and wholesale markets is long overdue. Customer benefits can be maximised by avoiding further delay.
Flexitricity Ltd	Yes	It seems possible with the current information, and can be revised if new information comes to light before the second consultation.

Respondent	Response	Rationale
IMServ Europe	No comment	No view on this
National Grid	Yes	We believe that the implementation of P344 should facilitate the successful go-live of project TERRE at the go-live date which is currently predicted to be Q4 2018. However we highlight that this date will be subject to revision as part of the central TERRE project RFP. We also note that the legal compliance date for the TERRE platform in the EB GL is likely to be Q3 2019.
Npower Group PLC	No	<p>We note that the timescales are dictated by the European Balancing Code, rather than anticipated time required to deliver the technical/system and commercial changes to deliver Project Terre.</p> <p>We are unsure of whether this implementation timescale is feasible in terms of IT systems and process changes that may be required to facilitate the system. The risk of unable to pass the through the imbalance costs (due to the type of contract) currently in play represent an unmanageable risk. We therefore would like a longer implementation timeframe.</p> <p>We believe that in setting a new implementation date, we should consider undertaking appropriate feasibility analysis across the supplier portfolios, as otherwise we introduce unnecessary risk of reputational damage to the sector and undermine interest in DSR in the future. There would also be excessive/inflated cost of system changes to meet the challenging 2018 Q4 timescales, the costs of which will ultimately be socialised through a wider customer group (who may not be able to access TERRE themselves).</p>
Origami Energy Ltd	No comment	
REstore	No comment	
RWE Supply and Trading GmbH	Yes	We should ensure that GB arrangements are in place to facilitate the introduction of the TERRE platform in 2018.
ScottishPower	Yes	
SmartestEnergy	Other	In reality the date will be a function of how quickly National Grid and Elexon can implement the changes they need to make and these will not be insubstantial. On the supplier side 12 months' notice to achieve a solution similar to that for the CM

Respondent	Response	Rationale
		would not be impossible. To change systems to receive reports of when DSR has been despatched and adjust expectation if imbalance positions may take longer and would be a disproportionate change for the amount of despatch each supplier may be notified of.
SP Dataserve	Yes	Yes
The Association for Decentralised Energy	Yes	The ADE agrees with the implementation date.
TMA Data Management Ltd	No comment	
UK Power Reserve	Yes	We would agree with the implementation date, however we predict serious issues with delivery considering the state of TERRE deployment as a system.
Uniper UK Limited	Yes	Yes, in the context of the target date for TERRE. However, both seem very ambitious timescales for the nature of what is being undertaken, particularly given the important interactions with local arrangements such as the BM.
Welsh Power	Yes	However, EBS seems to be critical to improving the GB market and must therefore be the focus of all IT delivery. Generally the timetable looks ambitious, but we would very much hope that Ofgem will push Elexon and NG to make sure delivery is as soon as practical.

## Question 21: Do you have any further comments on P344?

### Summary

Yes	No
14	5

### Responses

Respondent	Response	Comments
Centrica	Yes	These are our initial views based on the general direction of P344. We reserve the right to comment further on any of these points as the implementation proposals develop in more detail.
Drax Power Limited	Yes	<p>Participation in Project TERRE (i.e. submission of bids) should not be mandatory for BSC Parties. The benefits of participation are not clear, in terms of the value of the market, the impact on the BM, the cost of developing systems/processes to participate, etc. As such, the necessary changes to enable Project TERRE in the GB market should be designed at least cost to BSC Parties, to minimise the impact on those that choose to opt out. In terms of the models developed by the working group to date, we believe Option 1 is most likely to achieve this principle.</p> <p>We note that to ensure a smooth transition to a market that incorporates Project TERRE, National Grid will need to provide adequate guidance to BSC Parties on the requirements and impacts of participation. The sooner this is provided, the smoother the transition.</p>
EDF Energy	Yes	<p>1. Standard Products for TERRE will also require a reference level against which delivery is measured, and minimum and/or maximum quantities. The Balancing Guideline also refers to a minimum duration between the end of a deactivation period and the following activation.</p> <p>Note that the Balancing Guideline requires participants to strive to have a balanced position in real time, and implicitly associates physical 'position' with contractual position. Currently in GB there is no obligation to have a balanced position, only to give accurate 'physical notification' for system operational purposes.</p>

Respondent	Response	Comments
		<ol style="list-style-type: none"> <li data-bbox="638 145 1204 414">2. There are potential interactions between within-day trading close to gate closure, and submission of bids to TERRE, particularly for the last half-hour of each TERRE hour. The workgroup should consider the impacts of this and how material it is likely to be at implementation.</li> <li data-bbox="638 448 1204 638">3. Further detail of the central TERRE project specification should be obtained before a detailed specification of GB arrangements is finalised. Otherwise effort on GB arrangements could be wasted.</li> <li data-bbox="638 672 1204 1220">4. The intended methods of allocation of cross-border capacity for the purpose of balancing and any associated costs are important, and additional reporting on BMRS of capacity available for balancing may be required in addition to utilisation of capacity for balancing. The BSC rules concerning interconnectors should be reviewed and may need adjustments: scheduled/expected transfers; physical notifications; allocation of interconnector flows between various users for the purposes of settlement, including system-to-system flows.</li> <li data-bbox="638 1254 1204 1724">5. Although shared procurement and utilisation of other forms of reserve (in particular Frequency Restoration) with external systems is unlikely to occur in GB for some time, the procurement of other forms of reserve (in particular Frequency Restoration) in parallel with Replacement Reserves in Continental Europe could interact with Replacement Reserves there, and through TERRE, here. The workgroup and regulator should consider potential impacts on GB.</li> <li data-bbox="638 1758 1204 2072">6. The intended allocation of the net costs and benefits of cross-border exchanges and any interconnection congestion rent by TSOs between themselves and between GB and other users is currently outside the scope of the BSC, but consultation and publication on methods should be considered well before implementation.</li> <li data-bbox="638 2105 1204 2116">7. Page 13 of the P344 Consultation Document</li> </ol>

Respondent	Response	Comments
		<p>refers to relationships between submission of BM Bid-Offers and of TERRE bids. These are similar but different products, with different, though sometimes overlapping characteristics. Option 4, under which participants only submit BM Bid-Offer data and it is converted by NGET to TERRE data for submission to the central optimisation algorithm might be useful as an optional approach, but we don't think it should be mandatory.</p> <p>8. GB Net Imbalance Volume used in determination of system imbalance direction and imbalance prices is currently calculated from acceptance volumes before application of Transmission Loss Multipliers, and therefore represents a volume at 'station gate' for transmission-connected and licensed generation (if delivering), or at 'GSP level' for licence exemptable generation and other distribution-connected sources. P350 will further introduce variation in TLMs from zone to zone. This anomaly ought to be addressed. TERRE will introduce flows delivered through interconnectors with TLM artificially set to 1, in association (we assume) with instructions to individual GB BM Units at their assumed transmission boundary, which will be subject to TLM adjustment as for BM Bid-Offer Acceptances. NGET may intend to declare GB 'Need' for TERRE in terms of up or down action required from larger power stations at 'station gate', the traditional source of balancing energy. However, with increased participation of the demand side, potentially both transmission-connected and distribution-connected, and of distribution-connected generation, further consideration of the location of need relative to sources of balancing seems desirable to avoid anomalies in allocation of volumes and imbalance prices. Distribution-connected sources are also subject in settlement to distribution Line Loss adjustments and in some cases Grid Supply Point Correction. Apart from interconnectors, GB settlement is defined to occur at a notional balancing point in the GB system, to which all delivery and offtake volumes are adjusted. It would</p>

Respondent	Response	Comments
		<p>be simpler if balancing need and balancing offers and bids could be made at this location, like notified trades. Compromises will be necessary, but it should be made clear what they are.</p> <p>9. On pages 23-24, a process for determining the volume for a Virtual BM Unit and the imbalance volume adjustment for each host supplier of a Virtual BM Unit is described.</p> <p>(page 23) HHDA's [the Supplier Agents, not to be mixed up with "aggregators"] should be required to submit half hourly metered data for Metering Systems in Virtual BM Units to the SVAA.</p> <p>The SVAA will then use the half hourly metered data and the [virtual BM Unit mapping?] registration data to calculate an aggregated BM Unit Metered Volume for each Virtual BM Unit.</p> <p>The virtual BM Unit volume is not used directly in settlement (the actual energy is settled by the supplier), but can be used for monitoring reference levels and delivery of instructions.</p> <p>(page 24) "aggregators" [entities combining one or more customers potentially independently of suppliers] should be required to notify SVAA of the volume instructed to each Metering System [from within an aggregate instruction].</p> <p>SVAA would then aggregate these volumes to the Supplier level, and pass the results to the SAA for use in Settlement calculations [of host supplier imbalance].</p> <p>More detail is required on how these processes would operate. How will the HHDA access or obtain information from the proposed VBMU registration system? Format of what is sent by HHDA to SVAA? Will supplier get data relating to it directly from HHDA? Will there be rules on how 'aggregator/customer' parties allocate instructions between meters / 'host' suppliers?</p> <p>10. At Step 3 on pages 25-26 of the consultation, it is not clear how Bid-Offer</p>

Respondent	Response	Comments
		<p>Acceptance volumes relating to TERRE actions will be distinguished from equivalent volumes relating to BM actions.</p> <p>11. On page 27, third paragraph concerning non-delivery charges, note our comments in response to questions 8 and 7. BSC non-delivery charges are separate and distinct from any imbalance charge arising from under or over delivery of a balancing action. Under the proposal described, imbalance volumes and charges due to under or over delivery would lie with the host supplier, BSC non-delivery charges would lie with the Virtual BM Unit. We describe a potential alternative approach in response to question 7.</p> <p>At the bottom of page 27, the description of actions to be included in the imbalance price calculation says that interconnector volumes enter the imbalance price calculation as unpriced. We don't think this and the examples in Appendix 4 are quite correct. GB Need may be met by a combination of GB BSP actions and Interconnector flow to or from external systems. A net volume of GB BSP actions and/or Interconnector flow meeting GB Need should be included in imbalance price (priced at the TERRE price, subject to TLM adjustments commented on earlier, which may add complication in choosing which actions are within the net need). Any matching gross volumes of GB BSP and/or interconnector actions in opposite directions are implicitly not for GB net need and should be included unpriced (and should net out in NIV). For example if GB TERRE offers are used to support both GB shortfall need and external need across an interconnector, the volume of accepted GB TERRE offers beyond GB need and the opposing volume of interconnector export should be unpriced to prevent those volumes for an external need setting GB imbalance price in conjunction with other out-turn balancing actions. Note that the EU Balancing Guidelines might be interpreted to seek that such opposing volumes should be able to set GB imbalance price as part of an EU-wide balancing and imbalance regime.</p>
EnerNOC	Yes	This initiative is very welcome and timely, and many aspect are correct.

Respondent	Response	Comments
		<p>However, it is important that lessons are learned from other initiatives around market access by customers and independent aggregators. If you attempt to reinvent the wheel, it is easy to make mistakes which could undermine the whole initiative.</p> <p>The paper Recommended practices and key considerations for a regulatory framework and market design on explicit Demand Response,<sup>7</sup> published in December 2016 by the Universal Smart Energy Framework, provides a comprehensive overview of the many options that exist for facilitating demand-side flexibility, which may help put these proposals in context. What is being proposed in the consultation paper is a Corrected model, to use USEF terminology. The report shows that this is a “dual-BRP” approach, which requires the aggregator to assume balancing responsibility during dispatches, as we indicated in our responses to Q6, Q7, and Q8. It also shows that a baseline methodology is needed, as we indicated in our response to Q3.</p> <p>We would also recommend the presentation Opening markets to DR: lessons learnt from the French experience,<sup>8</sup> by Chloé Latour of RTE, for further perspective on the competition, confidentiality, and market design issues.</p>
Flexitricity Ltd	Yes	TERRE-specific settlement-quality submeters could be an alternative to metering solely based on site MPANs. This approach is used in the Capacity Market and has been used in the past in the Renewables Obligation. These would be installed by the customer or aggregator at a point in the site’s internal distribution network which captures only the TERRE-participating assets.
IMServ Europe	Yes	Our comments below assume that this proposal does not necessitate any changes to existing HHDA settlement processes, but does seek to utilise the

<sup>7</sup> Available at <https://www.usef.energy/app/uploads/2016/12/Recommended-practices-for-DR-market-design.pdf>

<sup>8</sup> Available at <https://www.irgc.org/event/demand-response/>

Respondent	Response	Comments
		<p>same databases and portfolio information used by HHDAs in the settlement process.</p> <ol style="list-style-type: none"> <li>1. The term 'aggregator' has not been defined. This is used throughout the document and is not always referring to the HHDA role, it seems. Please clarify.</li> <li>2. It would aid understanding of process and responsibilities if more distinction was made between 'aggregators' and 'Aggregators' (HHDAs) throughout the document. In fact maybe another term for 'aggregators' could be used?</li> <li>3. We are disappointed to find that in such a lengthy document, it is so short on detail on the key area of how such a service will be reported. Describing the registration process as 'The P344 solution will include a new registration process for aggregators and customers to place Metering Systems in Virtual BM Units.' provides little information for HHDAs to consider the impact of this Proposal on their role.</li> </ol> <p>Also, P344 further states 'This is a similar process to the one by which HHDAs submit metered data for Metering Systems in Capacity Market (CM) Units to the Electricity Market Reform (EMR) Settlement process.' but then contradicts this with 'In addition to the half hourly Meter readings, the data flow sent from HHDAs to SVAA will need to contain:</p> <ul style="list-style-type: none"> <li>• The associated distribution line losses (so that they can be included in the aggregated BM Unit Metered Volumes calculated by SVAA); and</li> <li>• The Supplier who is responsible for the Metering System (in order to allow SVAA to apply imbalance adjustments to Supplier's Energy Accounts, as described below)'</li> </ul> <p>This process is either the same or it is different to another process. This makes assessing the impact of this Proposal impossible for us. We would welcome clarification at the earliest opportunity in order to assess the practicalities of the process design, development effort, practical</p>

Respondent	Response	Comments
		<p>implementation dates and so forth. We therefore look forward to the second round of consultation when we hope this greater level of detail will be available to HHDA as without this, assumptions may be made which later turn out to be incorrect or undeliverable</p> <ol style="list-style-type: none"> <li data-bbox="638 403 1212 1310">1. We note that this arrangement does not follow the 'Supplier Hub' principal, with the registration instruction not coming from the Supplier. Therefore has thought been given to which Code Subsidiary Document would be appropriate in which to place these obligations on the HHDA and would said document be clear on the ownership and managing the requirements under this Proposal? We are extremely concerned that the same lack of consideration and subsequent poor decision making regarding the location of the requirements that prevailed at the time of the EMR implementation is not repeated. The risk and issues resulting from the latter have been subsequently discussed by PAB, SVG (See SVG170/02) and escalated to the Panel resulting in an action on ELEXON to review the document architecture. This has not yet been completed however the issue should not be compounded further by the proposal under discussion now.</li> <li data-bbox="638 1344 1212 2116">2. HHDA systems are used to process circa 49% of the SVA market consumption. Any changes to these systems therefore entail a high degree of risk to the entire settlement process, as has been evidenced in various recent Trading Disputes. A change therefore needs to be deemed critically essential and its detail available well in advance in order that this can be considered, refined and planned. This is all the more critical as all such are bespoke, individually designed and operated systems. Our experience of industry changes in recent years has been the opposite, i.e. EMR and P305 resulting in lack of, or variances in the deployed approach, with extended and ongoing effort on the part of ELEXON to bring all parties to the required same understanding and level of service delivery. We therefore strongly urge ELEXON to ensure that these same</li> </ol>

Respondent	Response	Comments
		<p>issues are not repeated in this instance.</p> <p>3. It is also unclear from the Proposal, who will contract with who for this service, please can this be clarified. Has thought been given to the contractual framework?</p> <p>4. Also, given this Proposal is departing from the Supplier Hub principal, how will assurance be obtained that all parties are achieving their requirements.</p>
National Grid	Yes	<p>As we have progressed with this workgroup it has become increasingly apparent that the solution for implementing project TERRE is both impacted by and has an impact on several wider issues within the industry. National Grid believes that it is crucial that in developing the solution for project TERRE, we must ensure that these wider influences are taken into account, such as Ofgem’s flexibility call for evidence and the Charging Review.</p> <p>Although engagement across the industry has generally been high for this modification workgroup, National Grid are concerned that there has been limited participation from aggregators and smaller market participants. This is particularly a concern as some areas of the solution which will have a significant impact on this portion of the industry. We would have concerns about making decisions on these topics without further feedback on what is proposed from aggregators and smaller participants.</p> <p>The document references the idea that National Grid will create an RR schedule and send this to Elexon for settlement purposes. This idea was discussed during the workgroups. National Grid’s position at the final workgroup before the launch of the consultation was that all RR acceptances would be converted into instructions and Sent to the appropriate BSPs at the start of / just before the start of the full activation time (30 minutes prior to the delivery period. These instructions will reflect what has been activated in TERRE and therefore we don’t consider that an additional schedule will need to be produced for settlement purposes.</p> <p>This consultation also focuses heavily on the contingency processes in the more unlikely event</p>

Respondent	Response	Comments
		where the results of the TERRE process are no longer consistent with requirements in GB. We believe it would be useful for all to clarify further that the suggested solutions for this situation is not the usual case, and provide further information on how the process will run under normal circumstances. With this point it is also important to note that National Grid will be conducting security assessments prior to submitting information to the TERRE platform, and we will use this information to "restrict" any bids which will further reduce the likelihood of needing to employ these contingency arrangements.
Npower Group PLC	Yes	The workgroup's proposal sets several assumptions on how the proposal should work but these assumptions must be fully tested within the phase 2 consultation, as well as providing clarity on the costs, timescales for system changes etc that will be required prior to the change proceeding.
Origami Energy Ltd	Yes	We agree with the ADE's comment that it makes no sense for the mechanisms implemented to provide independent access for Project TERRE to apply only to the replacement reserves markets, when it should be straightforward also to apply them to all other flexibility markets. We share the concern that due to industry modification proposals different markets will have different approaches, creating confusion and distortions. Further, smaller, non-traditional players cannot actively participate in multiple modification processes, and therefore with multiple modifications.
REstore	Yes	<p><b>1. REstore strongly disagrees with the baseline proposal applied for DSR.</b></p> <p>Description of the proposed solution stated that:</p> <p><i>"the P344 solution does not include rules for using historic data to establish a baseline demand for Demand Side Response (DSR). DSR will be measured against the Physical Notifications provided by the GB BSP (in those periods in which an RR Acceptance is issued to the DSR)."</i></p> <p>This is not a good and fair solution for several reasons:</p> <ul style="list-style-type: none"> <li>- as an independent aggregator acting as a BSP to</li> </ul>

Respondent	Response	Comments
		<p>provide a BM bid (either TERRE or free bid) to the TSO, <u>REstore only takes the responsibility to ensure that the TSO gets the delta power</u> (either drop or increase of consumption) that is requested, and when it is requested. The rest of the time, the consumer is free to follow its own consumption pattern: REstore has no responsibility nor ability to predict this behaviour as long as the delta power is provided when requested.</p> <p>- providing a nomination schedule is the responsibility of the BRP or the supplier, which as underlined as a core principle of the P344 proposal, is not necessarily the same legal entity than the aggregator and can be a competitor.</p> <p>- DSR is valued as a secondary use of existing assets whose first use is to use electricity to produce something. This primary use remains in the hands of the consumers engaged in DSR.</p> <p><b>As an alternative, REstore supports a simpler and more efficient baseline solution: baseline for a RR offer that is triggered by the TSO should be the level of consumption of the "Virtual BM unit" just before the activation: this can be the average consumption during the 10 minutes before activation for instance, as it is done successfully on the French BM for all RR offers (including DSR) since 2003.</b></p> <p>Values of the Metering System of the BSP on the "Virtual BM unit" should be used to determine such a baseline, and could produce more detailed data (10-minutes values for example).</p> <p><b>2. The proposed solution relying on "correction" of the billing (corrected model) is only suitable for DSR provided on large sites, and will not work for smaller commercial and residential DSR.</b></p> <p>The correction of the consumption level of each consumer based on metering data of each consumer can only be done if the number of consumer that are activated is limited.</p>

Respondent	Response	Comments
		<p>Small commercial &amp; residential DSR is about to come live, and its participation to the BM and TERRE through RR in particular is therefore very likely to happen in the short term. Therefore, an alternative solution has to be available for those consumers to participate.</p> <p>In France for instance, the "corrected" solution is limited to the bigger sites (&gt;250 kW typically). For the smaller sites, the imbalances linked to DSR activation are handled at the aggregated level: each BRP with consumers activated gets its imbalances corrected by the <u>global</u> volume of DSR activated on those sites. The calculation is not done at the individual consumer level, since it would take a non-reasonable amount of time to do so, which would kill the model in the egg.</p>
RWE Supply and Trading GmbH	No	
ScottishPower	No	
SmartestEnergy	Yes	CfD Units are held in additional BMUs. If it is possible to hold a CfD contract and offer flexibility through an aggregator, this will need to be considered.
SP Dataserve	Yes	I would request further information on the impact P344 will have on HHDA, what are the implications and consideration form HHDA perspective
The Association for Decentralised Energy	Yes	<p><b>1. Baseline proposal</b></p> <p>The ADE strongly disagrees with the baseline proposal for the following reasons:</p> <ul style="list-style-type: none"> <li>• It is the Supplier's responsibility to forecast customer demand, not the aggregator's.</li> <li>• The aggregator is responsible for forecasting the flexibility that Virtual BMU can offer, to make offers which are consistent with that, and to deliver the required flexibility as instructed.</li> <li>• This flexibility is delivered relative to the customers' normal demand. Hence the aggregator's FPN should usually be 0 for all</li> </ul>

Respondent	Response	Comments
		<p>Virtual BMUs.</p> <ul style="list-style-type: none"> <li>• Providing a nomination schedule is the responsibility of the BRP or the supplier, which as underlined as a core principle of the P344 proposal, is not necessarily the same legal entity than the aggregator and can be a competitor.</li> <li>• DSR is valued as a secondary use of existing assets whose first use is to use electricity to deliver an output (pump, light, etc). This primary use remains in the hands of the consumers engaged in DSR.</li> </ul> <p><b>2. Metering</b></p> <p>TERRE-specific settlement-quality submeters could be an alternative to metering solely based on site MPANs. This approach is used in the Capacity Market and has been used in the past in the Renewables Obligation. These would be installed by the customer or aggregator at a point in the site’s internal distribution network which captures only the TERRE-participating assets.</p> <p><b>3. Regulatory process</b></p> <p>The ADE strongly supports Project TERRE to establish independent access for non-BM participants into the Balancing Market. Project TERRE will only be successful if it allows independent access for non-BM participants and accepts the views of non-BM participants.</p> <p>It is vital that aggregators (or other distributed flexibility providers) are directly involved in regulatory processes and decision making to ensure that rules are set up to allow all technologies to compete on a level playing field. For example, in the BM, the rules allow thermal generators to define intricate physical parameters (such as warm up time or warm down times) which are taken into account for their Bids and Offers; distributed technologies have very different physical limitations so it is important that rules allow these to be recognised as well (such as an energy recovery requirement for storage technologies).</p> <p>It would make no sense for the mechanisms implemented to provide independent access for Project TERRE to apply only to the replacement reserves markets, when it should be straightforward</p>

Respondent	Response	Comments
		also to apply them to all other flexibility markets. We have concerns that due to industry modification proposals different markets will have different approaches, creating confusion and distortions. Further, smaller, non-traditional players cannot actively participate in multiple modification processes, and therefore with multiple modifications.
TMA Data Management Ltd	No	
UK Power Reserve	Yes	<p>We would like to highlight that the current proposals to allow greater access to the BM through virtual lead parties is warmly welcomed and will have significant advantages in allowing greater competition and access to market.</p> <p>However we would clarify that this does not necessarily go far enough in providing easier access to the BM for many parties, there will remain substantial barriers not only to entry but to equal despatch decisions and that TERRE does not represent equal access in the BM for existing nBM parties and that this should not be considered as resolving many of the market access issues faced by nBM that have been sought to be addressed by National Grid previously.</p> <p>We remain of the mind that further work should be carried out separately to allow a level playing field between generators of different scales and that this although a healthy development does not represent a final solution.</p>
Uniper UK Limited	No	
Welsh Power	No	