



Integrated Single Electricity Market (I-SEM)

**High Level Design for Ireland and Northern
Ireland from 2016**

Consultation Response from Power Optimisation

April 2014

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1 PURPOSE OF THIS DOCUMENT

1.1 PURPOSE AND STRUCTURE OF THIS DOCUMENT

- 1.1.1 This supplementary document provides a template for responses to the consultation document on implementing a new High Level Design ('HLD') for the Integrated Single Electricity Market (I-SEM) in Ireland by the end of 2016. We request all responses to the consultation are submitted in this template, and in **Microsoft Word** format.
- 1.1.2 This template contains the questions presented in the consultation document.
- 1.1.3 Responses to the Consultation Paper are requested by 17.00 4th April 2014. Following a review of the responses to this paper the SEM Committee will publish its draft decision on the proposals set out in this paper in June 2014.
- 1.1.4 Responses should be sent to Jean-Pierre Miura (JeanPierre.Miura@uregni.gov.uk) and Philip Newsome (pnewsome@cer.ie). Please note that the SEM Committee intends to publish all responses unless marked confidential¹.

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¹ While the SEM Committee does not intend to publish responses marked confidential please note that both Regulatory Authorities are subject to Freedom of Information legislation.

2 CONSULTATION QUESTIONS

2.1 RESPONDENT DETAILS

COMPANY	Power Optimisation
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MAIN INTEREST IN CONSULTATION	<p>Power Optimisation is a software company which develops specialist software for use by electricity companies for ‘unit commitment’ and for planning purposes. Our unit commitment software was used by NIE from 1995, until the start of the SEM in 2007, to schedule and dispatch the generating units in the Northern Ireland power system.</p> <p>Since 2007, NIE’s Power Procurement Branch has been using a more recent version of our unit commitment software, called POWEROP, for planning purposes in the SEM. These include forecasting SMPs and the outputs of generating units in the ‘unconstrained’ generation schedules produced by SEMO, and forecasting the outputs of generating plant in the ‘constrained’ generation schedules produced by the TSOs.</p> <p>POWEROP is able to solve the same unit commitment problems as the UUC software currently used by SEMO and the RCUC software currently used by the TSOs. Due to its unique solution algorithm (which is a combination of the Mixed Integer Linear Programming, or MILP, method and a proprietary multi-phase method), the run-time of POWEROP is significantly faster than that of unit commitment programs that use the standard MILP method (including the RCUC). The TSOs’ unit commitment program will need to be run much more frequently in the i-SEM than in the SEM. This means that minimising run-times of the unit commitment program will be an important issue for the TSOs, regardless of which of the four proposed options for the i-SEM is selected. Therefore we suggest that POWEROP is considered for use in the i-SEM by the TSOs.</p> <p>POWEROP is also used by EDF Energy and Scottish Power for the self-scheduling of their generation portfolios in the British electricity market under BETTA and previously under NETA, and for creating ‘Physical Notification’ profiles for each of their generating units which are sent to the BETTA Balancing Mechanism.</p> <p>We believe that our experience of developing mathematical optimisation algorithms and unit commitment software for the electricity markets in both Ireland and Britain is relevant to this consultation, and that we can provide some useful technical comments on certain issues. One reason for this belief</p>

is that some of the four options proposed for the i-SEM have similarities with the current Irish SEM, while some have similarities with BETTA in Britain. However, we have confined our comments and answers below to those issues for which we think our knowledge and experience are directly relevant, particularly those to do with unit commitment, with the Euphemia software, and with the economic efficiency of the various options.

2.2 GENERAL COMMENTS

We will use this section to make some comments that apply to more than one of the four proposed options for the i-SEM, to avoid repeating these points in the sections for the individual options.

Economic Efficiency

According to Section 1.2.4 of the Consultation Paper, one of the selection criteria for the i-SEM HLD is: “Efficiency: market design should, in so far as it is practical to do so, result in the most economic (i.e. least cost) dispatch of available plant”. The Consultation Paper assesses each of the four options as being ‘neutral’ with regards to this selection criterion. However, we disagree with this assessment. We believe that Options 4 and 2 are more likely to satisfy this criterion than Option 3 and somewhat more likely than Option 1, for the reasons described below.

Unit commitment and dispatch by the TSOs in Option 4 are based on ‘complex’ three-part bids that include variable costs of generation, no-load costs and start-up costs (the latter are ‘warmth-dependent’, i.e. they depend on how long the generating unit has previously been off when it starts-up). These are the same three-part bids that are currently used in the SEM. In so far as the generating companies submit bids that represent their true costs (which they will be encouraged to do by the Regulators), and provided that the unit commitment software is able to find a near-optimal feasible schedule in the run-time that is has available to it, then **the dispatch schedule produced by the TSO in Option 4 should be the most economically efficient of the various options with regards to the true costs of the generating units.** The dispatch schedule produced by the TSO is, after all, the only one that is implemented in practice. We believe that the financial arrangements for paying the generating companies for their outputs are not relevant to the economic efficiency of the dispatch; the only thing that is relevant to this is how close the dispatch schedule is to the one that would be found by the TSOs if they were provided with the generators’ true costs. (The dispatch schedule from Option 4 would be even more economically efficient if the study period were longer than the 1.25 days currently used in the SEM, because a longer study period would reduce study-end effects, but this is not a material point for choosing between the various options.)

With Option 2, it seems to us that the nominations provided by the generating companies to the TSOs (which are the TSOs’ starting point for dispatch) are likely to be reasonably economically efficient. **We think the dispatch schedule produced by the TSOs with Option 2 should also be economically efficient,** because the TSOs would be provided with ‘complex’ three-part bids for

deviating from the nominated outputs, which should be representative of the true costs of the generating units.

One major drawback of Options 1 and 3, with regards to economic efficiency, is that their proposed Balancing Mechanisms only allow generating companies to submit simple incremental and decremental bids for deviating from the output profiles that they nominate for their generating units. A similar Balancing Mechanism was introduced in Britain when NETA started in 2001. At that time, the justification for using simple incremental and decremental bids in the NETA Balancing Mechanism was that energy actions in the Balancing Mechanism were expected to only produce small changes from the nominations of the generation companies. However, this did not always turn out to be the case in practice.

For the various reasons explained in Section 3 of the Consultation Paper, **the dispatch schedule determined by the TSOs in the i-SEM is likely to be very different from that implied by the nominations from the generating companies, for all four options. Furthermore, the percentage differences between the two schedules is likely to be much larger in the i-SEM than in the British electricity market under BETTA.** This is for the following reasons: (1) Thermal generating units in Ireland have values of Minimum Stable Generation and maximum outputs that are both much larger percentages of national demand than in Britain. (2) Reserve requirements are more severe in Ireland than in Britain. (3) The transmission constraint on the North-South corridor in Ireland is more restrictive than typical transmission constraints in Britain. (4) The percent of largest infeed reserve requirement is more restrictive in Ireland than in Britain. (5) There is a greater need in Ireland than in Britain to run some thermal generating units out-of-merit in order to provide a minimum system inertia (owing to the higher penetration of wind power in Ireland than in Britain).

This means many generating units that are scheduled to run in the nominations will not run in the TSOs' dispatch schedule, and many other generating units that are not scheduled to run in the nominations will run in the TSOs' dispatch schedule. **But the simple incremental and decremental bids that can be submitted to the proposed Balancing Mechanisms cannot be fully representative of the true costs of the generating units, because they can only properly represent the output-dependent costs. The actual costs of the generating units also include components from no-load costs, start-up costs and shut-down costs, which cannot be properly represented by incremental and decremental bids.** Therefore a large proportion of the TSOs' dispatch schedule from a Balancing Mechanism will be determined by a unit commitment process that does not use the true costs of the generating units, which means it cannot be economically efficient with respect to those true costs, even if the TSO's unit commitment software is able to find a near-optimal feasible solution within the run-time that it is allowed.

In other words, in the TSOs' dispatch schedule from a Balancing Mechanism, there will be some expensive generating units that will be run which would not have run in a Pool-based market, and there will also be some cheap generating units that will not be run which would have run in a Pool-based market. **Therefore the Balancing Mechanism schedule will be more expensive than the Pool schedule with respect to the true costs of the generating units** (although not with respect to the simple incremental and decremental bids that are offered to the Balancing Mechanism).

We can illustrate this point with a simple example. Suppose we have a generating unit with fast ramp rates, a Minimum Stable Generation of 100 MW, a maximum output of 300 MW, a Minimum On Time of 5 hours, a single low incremental cost, but significant no-load and start-up costs. If this generating unit is scheduled to be off in the nominations, then the generating company would need to take into account its no-load and start-up costs when deciding what incremental prices to quote to the Balancing Mechanism for this generating unit, but it would not know in advance for how long this generating unit would be dispatched to run by the Balancing Mechanism. A risk-averse generating company might quote an incremental price to the Balancing Mechanism that would allow it to fully recover its no-load cost and its start-up cost as well as its true incremental costs if the generating unit were scheduled to run at its minimum 100 MW for its Minimum On Time of 5 hours. This would mean that if the generating unit is scheduled to run, there is no chance of it running at a loss, and if it runs above 100 MW or it runs for longer than 5 hours then it is guaranteed to make a profit. However, this incremental price quoted to the Balancing Mechanism might be so high that it causes the Balancing Mechanism not to run this generating unit at all, or to run it only at 100 MW for just 5 hours. On the other hand, if the true costs had been quoted to a Pool-based market as separate no-load, start-up and incremental costs, then this generating unit might have been run at 300 MW for 10 hours, which would have been the optimal dispatch with regards to the true costs. (N.B. Quoting more than one incremental price to the Balancing Mechanism for different output ranges would not help with this issue, because if the rules of the i-SEM Balancing Mechanism are similar to those of the BETTA Balancing Mechanism, any incremental prices quoted to the Balancing Mechanism for outputs above 100 MW would need to be at least as high as the incremental price quoted for outputs up to 100 MW.)

The same argument applies to the bids that can be offered to the Euphemia software under Option 3, which requires mandatory participation in the European DAM on an individual generating unit basis. Although Euphemia might be able to accept a set of different bids with different degrees of complexity, including 'simple', 'block' and 'sophisticated' bids, as described in Section 4.3.40 of the Consultation Paper, it would still not be possible for a generating company to use those bids to fully represent the true costs of its generating units under all feasible operating regimes, in the way that it could do using the 'complex' three-part bids allowed by Options 2 and 4.

Furthermore, we think that, under Option 3, there is a significant risk that Euphemia would not be able to find a near-optimal solution to the difficult optimisation problem it is presented with by the i-SEM in its allowed maximum run-time, bearing in mind that it would also have to simultaneously solve an optimisation problem for up to 26 other countries across Europe. This is because the run-times of combinatorial optimisation problems tend to increase exponentially, not linearly, with the number of integer variables in the problem, and they also tend to increase significantly when the optimisation problem is made more difficult. A mitigating factor is that the flexibility provided by demand-side bids tends to make Euphemia's optimisation problem easier than the unit commitment problem (in which the forecast half-hourly national demands are treated as hard constraints). However, by forcing every generating unit in the i-SEM to be scheduled individually by Euphemia, with a very limited interconnector capacity to neighbouring power systems, Option 3 is both increasing the number of integer variables in Euphemia's optimisation problem and making it more difficult (for which the rest of Europe might not be grateful). Section 8.2.5 of the Consultation Paper says "This option is close to the design of electricity markets in the NWE region, which are built on

the concept of a liquid DAM, and also similar to the Iberian market in particular which exhibits high liquidity in the DAM and IDM". However, the NWE region and the Iberian market both have large numbers of hydro-electric units, which are much more flexible than the mainly thermal generating units in Ireland, and they also have strong interconnections with the rest of Europe, both of which make their optimisation problems much easier than that of i-SEM. Furthermore, the number of countries being scheduled by Euphemia at present is fewer than the eventual planned number of 27. **Therefore we expect that, with Option 3, the TSOs' starting point for dispatch would not be economically efficient.** As we also expect the Balancing Mechanism of Option 3 would also not be economically efficient, for the reasons described above, we expect the economic efficiency of Option 3 with regards to the true costs of the generating units to be the worst of all the four options.

With Option 1, as with Option 2, it seems likely to us that the nominations provided by the generating companies to the TSOs (which are the TSOs' starting point for dispatch) would be reasonably economically efficient. However, for the reasons described above, we expect that the Balancing Mechanism of Option 1 would not be economically efficient with regards to the true costs of the generating units.

Of course, economic efficiency is just one of nine criteria that will be used to decide between the four options. **However, it is an important criterion, and it seems from the Consultation Document that the points discussed above may not have been fully appreciated.**

Run-times

The run-times of the TSOs' unit commitment program are likely to be longer with Options 2 and 4, compared with Options 1 and 3, because the 'complex' three-part bids of Options 2 and 4 (which require the modelling of start-up and no-load costs) are likely to make the optimisation problem more difficult than the simple incremental and decremental bids of Options 1 and 3. However, the run-times with Options 1 and 3 are still likely to be significant, because the unit commitment program will need with those options to take account of 'discrete' features of the optimisation problem, such as modelling the Minimum Stable Generation and the Minimum On and Off Times of thermal generating units and their often non-convex spinning reserve characteristics.

Run-times are likely to be a more important issue in the i-SEM than they are in the SEM, because intra-day runs will need to be done much more frequently in the i-SEM than in the SEM. This is due to more frequent rebidding by market participants in intra-day timescales, and the likely occasional infeasibility of the interconnector flows determined by Euphemia with respect to the TSOs' requirements (which would require further runs of the unit commitment program with modified interconnector flows)

2.3 PURPOSE OF THE DOCUMENT (SECTION 1)

Question	Answer
1. Which option for energy trading arrangements would be your preferred choice for the I-SEM market, and why?	No comment.
2. Is there a requirement for a CRM in the revised HLD, and why?	No comment.
3. If there is a requirement for a CRM in the revised HLD, what form would be your preferred choice for the I-SEM, and why?	No comment.

2.4 TOPICS FOR THE HIGH LEVEL DESIGN OF ENERGY TRADING ARRANGEMENTS (SECTION 4)

Question	Answer
<p>4. Are these the most important topics to consider in the description of the HLD for the revised energy trading arrangements for the single electricity market on the island of Ireland?</p>	<p>No comment.</p>
<p>5. Are there other aspects of the European Internal Electricity Market that should form part of the process of the High Level Design of energy trading arrangements in the I-SEM?</p>	<p>No comment.</p>

2.5 SUMMARY OF THE OPTIONS FOR ENERGY TRADING ARRANGEMENTS (SECTION 5)

Question	Answer
6. What evidence can you provide for the assessment of the HLD options with respect to security of supply, efficiency, and adaptability?	No comment.

2.6 ADAPTED DECENTRALISED MARKET (SECTION 6)

Question	Answer
<p>7. Are there any changes you would suggest to make the Adapted Decentralised Market more effective for the I-SEM (for instance, a different choice for one or more of the topics or a different topic altogether)?</p>	<p>We suggest finding a way in which ‘complex’ three-part bids could be made to the Balancing Mechanism of the Adapted Decentralised Market. This would make the actions taken in the Balancing Mechanism more reflective of the true costs of thermal generating units, and therefore would make this option more economically efficient.</p> <p>However, we are not sure whether this change would make this option the same as Option 2 (the Mandatory Ex-post Pool for Net Volumes), or whether there would still be some significant differences between them.</p>
<p>8. Do you agree with the qualitative assessment of the Adapted Decentralised Market against the HLD criteria? If not, what changes to the assessment would you suggest (including the relative strengths and weaknesses of an option)?</p>	<p>We do not agree with the qualitative assessment of the Adapted Decentralised Market (Option 1) against the HLD criterion of economic efficiency as being ‘neutral’. We believe that economic efficiency is a relative weakness of this option, for the reasons we explained above in Section 2.2 (General Comments).</p>
<p>9. How does the Adapted Decentralised Market measure against the SEM Committee’s primary duty to protect the long and short term interests of consumers on the island of Ireland?</p>	<p>No comment.</p>

2.7 MANDATORY EX-POST POOL FOR NET VOLUMES (SECTION 7)

Question	Answer
10. Are there any changes you would suggest to make the Mandatory Ex-post Pool for Net Volumes more effective for the I-SEM (for instance, a different choice for one or more of the topics or a different topic altogether)?	No comment.
11. Do you agree with the qualitative assessment of Mandatory Ex-post Pool for Net Volumes against the HLD criteria? If not, what changes to the assessment would you suggest (including the relative strengths and weaknesses of an option)?	We do not agree with the qualitative assessment of the Mandatory Ex-post Pool for Net Volumes (Option 2) against the HLD criterion of economic efficiency as being 'neutral'. We believe that economic efficiency is a relative strength of this option , for the reasons we explained above in Section 2.2 (General Comments).
12. How does the Mandatory Ex-post Pool for Net Volumes measure against the SEM Committee's primary duty to protect the long and short term interests of consumers on the island of Ireland?	No comment.

2.8 MANDATORY CENTRALISED MARKET (SECTION 8)

Question	Answer
<p>13. Are there any changes you would suggest to make the Mandatory Centralised Market more effective for the I-SEM (for instance, a different choice for one or more of the topics or a different topic altogether)?</p>	<p>We suggest finding a way in which ‘complex’ three-part bids could be made to the Balancing Mechanism of the Adapted Decentralised Market. This would make the actions taken in the Balancing Mechanism more reflective of the true costs of thermal generating units, and therefore would make this option more economically efficient.</p>
<p>14. Do you agree with the qualitative assessment of Mandatory Centralised Market against the HLD criteria? If not, what changes to the assessment would you suggest (including the relative strengths and weaknesses of an option)?</p>	<p>We do not agree with the qualitative assessment of the Mandatory Centralised Market (Option 3) against the HLD criterion of economic efficiency as being ‘neutral’. We believe that economic efficiency is a relative weakness of this option, for the reasons we explained above in Section 2.2 (General Comments).</p> <p>We would also make the following points about this option:</p> <p>(1) According to Section 4.3.40 of the Consultation Paper, Euphemia allows market participants to submit ‘sophisticated bids’ which can include a ‘load gradient’, which is equivalent to a generating unit specifying a ramp rate. This is better than not being able to specify a ramp rate at all. However, many generating units in Ireland, such as coal-fired units and CCGTs, have multiple warmth-dependent ramp rates that apply at different MW output levels, for example immediately after a start-up; we are not sure whether these could be modelled by ‘sophisticated bids’ offered to Euphemia. If not, then the dispatch schedule calculated by Euphemia for those generating units would not be physically achievable. If the Balancing Mechanism does not change the Euphemia dispatch schedule for one of those generating units, then the generating unit would not be able to achieve all of its dispatched outputs in practice. This would not be good from a system security point of view. It would also mean that the generating company would be unfairly penalised financially, for having metered outputs for that generating unit that were significantly different from the dispatched outputs.</p> <p>The above point is also applicable, to a smaller extent, to the other options, as far as bids submitted to Euphemia are concerned. However, with each of the other options, only a fraction of a generating company’s available capacity might be offered to Euphemia, which might alleviate the above problem. For example, an offer to Euphemia with one of the other options might just be for the output range of a generating unit over which a single ramp rate</p>

	<p>applies.</p> <p>(2) This option would not work if the network connections to Euphemia were not available. Therefore contingency arrangements would be required with this option, but it is not obvious to us what they should be.</p> <p>(3) If there are any changes specific to the i-SEM that would be desirable in the future with this option, they would need to be agreed with the European authorities and possibly with 26 other countries, which is likely to lead to considerable delays in implementation.</p> <p>(4) This option seems risky to us, for the reasons we explained above and in Section 2.2, General Comments.</p>
<p>15. How does the Mandatory Centralised Market measure against the SEM Committee’s primary duty to protect the long and short term interests of consumers on the island of Ireland?</p>	<p>No comment.</p>

2.9 GROSS POOL – NET SETTLEMENT MARKET (SECTION 9)

Question	Answer
16. Are there any changes you would suggest to make the Gross Pool – Net Settlement Market more effective for the all I-SEM (for instance, a different choice for one or more of the topics or a different topic altogether)?	No comment.
17. Do you agree with the qualitative assessment of Gross Pool – Net Settlement Market against the HLD criteria? If not, what changes to the assessment would you suggest (including the relative strengths and weaknesses of an option)?	We do not agree with the qualitative assessment of the Gross Pool – Net Settlement Market (Option 4) against the HLD criterion of economic efficiency as being ‘neutral’. We believe that economic efficiency is a relative strength of this option , for the reasons we explained above in Section 2.2 (General Comments).
18. How does the Gross Pool – Net Settlement Market measure against the SEM Committee’s primary duty to protect the long and short term interests of consumers on the island of Ireland?	No comment.

2.10 CAPACITY REMUNERATION MECHANISMS (CHAPTER 10)

Question	Answer
<p>19. What are the rationales for and against the continuation of some form of CRM as part of the revised trading arrangements for the I- SEM?</p>	<p>No comment.</p>
<p>20. Are these the most important topics for describing the high level design of any future CRM for the I-SEM?</p>	<p>No comment.</p>

2.11 STRATEGIC RESERVE (CHAPTER 10.7)

Question	Answer
<p>21. Are there any changes you would suggest to make the design of a Strategic Reserve mechanism more effective for the I-SEM (for instance a different choice for one or more of the topic?)</p>	<p>No comment.</p>
<p>22. Do you agree with the initial assessment of the strengths and weaknesses of a Strategic Reserve Mechanism? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?</p>	<p>No comment.</p>
<p>23. Would a Strategic Reserve Mechanism work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?</p>	<p>No comment.</p>

2.12 LONG-TERM PRICE-BASED CRM (CHAPTER 10.9)

Question	Answer
<p>24. Are there any changes you would suggest to make the design of a Long-term price-based CRM effective for the I-SEM (for instance a different choice for one or more of the topic?)</p>	<p>No comment.</p>
<p>25. Do you agree with the initial assessment of the strengths and weaknesses of a Long-term price-based CRM? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?</p>	<p>No comment.</p>
<p>26. Would a Long-term price-based CRM work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?</p>	<p>No comment.</p>

2.13 SHORT-TERM PRICE-BASED CRM (CHAPTER 10.10)

Question	Answer
<p>27. Are there any changes you would suggest to make the design of a Short-term price-based CRM effective for the I-SEM (for instance a different choice for one or more of the topic)?</p>	<p>No comment.</p>
<p>28. Do you agree with the initial assessment of the strengths and weaknesses of a Short-term price-based CRM? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?</p>	<p>No comment.</p>
<p>29. Would a Short-term price-based CRM work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?</p>	<p>No comment.</p>

2.14 QUANTITY-BASED CAPACITY AUCTION (CHAPTER 10.11)

Question	Answer
<p>30. Are there any changes you would suggest to make the design of a Quantity-based Capacity Auction CRM effective for the I-SEM (for instance a different choice for one or more of the topic)?</p>	<p>No comment.</p>
<p>31. Do you agree with the initial assessment of the strengths and weaknesses of a Quantity-based Capacity Auction CRM? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?</p>	<p>No comment.</p>
<p>32. Would a Quantity-based Capacity Auction CRM work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?</p>	<p>No comment.</p>

2.15 QUANTITY-BASED CAPACITY OBLIGATION (CHAPTER 10.12)

Question	Answer
<p>33. Are there any changes you would suggest to make the design of a Quantity-based Capacity Obligation CRM effective for the I-SEM (for instance a different choice for one or more of the topic)?</p>	<p>No comment.</p>
<p>34. Do you agree with the initial assessment of the strengths and weaknesses of a Quantity-based Capacity Obligation CRM? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?</p>	<p>No comment.</p>
<p>35. Would a Quantity-based Capacity Obligation CRM work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?</p>	<p>No comment.</p>

2.16 CENTRALISED RELIABILITY OPTIONS (CHAPTER 10.14)

Question	Answer
<p>36. Are there any changes you would suggest to make the design of a Centralised Reliability Option CRM effective for the I-SEM (for instance a different choice for one or more of the topic)?</p>	<p>No comment.</p>
<p>37. Do you agree with the initial assessment of the strengths and weaknesses of a Centralised Reliability Option? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?</p>	<p>No comment.</p>
<p>38. Would a Centralised Reliability Option work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?</p>	<p>No comment.</p>

2.17 DECENTRALISED RELIABILITY OPTIONS (CHAPTER 10.15)

Question	Answer
<p>39. Are there any changes you would suggest to make the design of a Decentralised Reliability Option CRM effective for the I-SEM (for instance a different choice for one or more of the topic)?</p>	<p>No comment.</p>
<p>40. Do you agree with the initial assessment of the strengths and weaknesses of a Decentralised Reliability Option? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?</p>	<p>No comment.</p>
<p>41. Would a Decentralised Reliability Option work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?</p>	<p>No comment.</p>