



Demand Response Aggregators of Ireland

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cc. Robert O'Rourke
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1st April 2015

Dear Sir and Madam,

Re: Registration of sites as members of DSUs

Demand Response Aggregators of Ireland ("DRAI") is a recently formed association of ten Demand Side Unit (DSU) and Aggregated Generating Unit (AGU) providers in the SEM. Our purpose is to provide a single voice on policy and regulatory matters of common interest and we very much look forward to working with you going forward. Ultimately the purpose of Demand Side Participation in the SEM aims to improve system security while reducing costs to the consumer and reducing generation related emissions.

On this occasion we must address some concerns we have regarding the process which is being progressed bilaterally between yourselves and the 4 system operators. We understand that a meeting is proposed for tomorrow (Thursday the 2nd of April) between the parties to discuss how DSU site registrations should be treated. We are disappointed that we have not been given the opportunity to work with the system operators to develop a solution which could be acceptable to all parties. Instead a flow chart which has been presented to us but never discussed is going to be presented as the way forward. I'm sure when you review it you will agree that it is not.

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We have asked the system operators to delay making this representation to yourselves in favour of meeting with all stakeholders to discuss how a mutually acceptable process can be developed. Once parties begin setting out their official positions it will become harder to develop a mutually agreeable process. Unfortunately they have declined. In light of this please find below our first thoughts on the issues we have with the proposal which is being made to you by the system operators. These thoughts are mainly focused on Northern Ireland but we believe the points are generally valid in both jurisdictions.. Furthermore we ask for a meeting with yourselves to explain our position. All interested parties are welcome to attend.

Finally can I reiterate the goal we all should be striving for here, to provide a secure, sustainable and economic system for all. The coming years will see significant changes to how the electricity system will operate and DSU, as a registered, licenced, dispatchable unit which communicates real time information to the system operators is probably the most uncontraversal development which will occur by a long distance. Our understanding of what is proposed makes no attempt to manage the real issues which will occur with or without DSU in the coming years. We ask that a more strategic view be taken.

With all this in mind I make myself and any of our members available for a meeting at your convenience to discuss this matter in full.

Yours sincerely



Patrick Liddy

Chairman DRAI

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1.0: The Issue

1. Our members are seeking to register Demand Side Units (DSUs) in the SEM in the Northern Ireland jurisdiction. Many are currently registered as DSUs in the Republic of Ireland
2. In accordance with paragraph 2.33 of the Trading and Settlement Code, DSU applicants in either jurisdiction must provide, amongst other things, the following information:
 - Evidence of a notice of Operational Readiness Confirmation¹ from the relevant transmission System Operator (in this case SONI/Eirgrid), and
 - Such other Registration Data as is required by the Market Operator pursuant to Appendix H. This includes the Dispatchable Quantity² of the DSU that, in accordance with Agreed Procedure No.1, paragraph 3.2, must be confirmed by the relevant transmission System Operator (in this case SONI/Eirgrid).
3. Both Grid Codes also require DSU applicants to provide general and technical information (as Planning Conditions) and to demonstrate certain technical characteristics (as Connection Conditions).
4. To help process the requirements of both the Trading and Settlement Code and the Grid Codes, Eirgrid and SONI use a common application form for DSUs. Questions 12 and 13 of this form asks NI applicants to confirm that the Distribution Network Owner (NIE) and NIE Market Services of the proposed intention of the customer to operate a DSU. Importantly, the applicant is not however asked to confirm that NIE (or ESB Networks for Irish applicants) has consented to any demand site entering the market as part of a DSU.
5. SONI has recently proposed Grid Code modifications in regard to DSUs in Northern Ireland and these are now with the Utility Regulator for consideration. These proposals include a modification to the wording of a planning condition (PC.B3.3, XV11) such that the consent of NIE is required for any demand site to participate in the SEM as part of a DSU. We note however that in its consultation process SONI provided no justification for this proposed

¹ Operational Readiness Confirmation means the notice from the relevant System Operator that the Generator Unit has sufficiently demonstrated that they are dispatchable and/or controllable in order to discharge the appropriate obligations under the relevant Grid Code.

² Dispatchable Quantity means the Maximum Generation for Demand Side Units for the purpose of Appendix O: "Instruction Profiling Calculations" only.

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modification.

6. We understand that SONI, together with Eirgrid, ESB Networks and NIE (collectively the “System Operators”), have also recently written to the Utility Regulator and CER (the “RAs”) seeking approval for revisions to the DSU application process. This proposal includes a requirement to receive the consent of NIE (after a 90-business day assessment period to determine if network upgrades are required) for a demand site to participate in the SEM as part of a DSU in Northern Ireland. The proposal would also allow NIE and ESB Networks to make changes to legally binding Connection Agreements including, it appears, the introduction of operating restrictions. We understand that the parties are seeking the approval of the RAs to adopt this revised application process.
7. This proposal was also tabled at a DSU workshop in July 2014. NIE was not present at the meeting and did not provide a technical paper setting out its justification for the proposal. However, based on discussion at the meeting, the stated concern appears to relate to network operational security in the event of demand reduction at certain locations. The DSU members of the workshop were somewhat surprised by this because NIE had stated at a previous meeting that it had no issue provided demand sites did not export onto the network (using on-site generation). For obvious reasons, the proposal was completely unacceptable to DSU members.
8. This is a very serious issue for our members that we need to bring to the attention of the Utility Regulator. We have the following concerns with the proposal:
 - It is inconsistent with the SEM high-level design³ in regard to how network constraints (both physical and operational) are treated for all other Generating Units (including DSUs in Ireland), and in regard to the corresponding rules in both Grid Codes and in the Trading and Settlement Code. It is therefore likely to amount to undue discrimination.
 - It is providing NIE with an option to further delay and/or prevent NI customers from

³ In the SEM, Generating Units (including DSUs) are not prevented from entering the market because this could, at times, result in network constraints (either physical or operational). The SEM is an unconstrained market and the unconstrained market schedule only considers the bids of Generating units (including DSUs). The dispatch schedule, on the other hand, is compiled based on the rules of the Scheduling and Dispatch Codes (in the Grid Codes) and any network constraints are taken into consideration. In accordance with the rules of the Trading and Settlement Code, Generating Units in the unconstrained schedule receive Dispatch Balancing Costs to the extent that they are constrained.

Note that SONI also recognises this market design. Page 9 of Decision Paper SEM-15-14, “Process for calculating Outturn Availability”, published on 25 February 2015, states that: “The TSO’s also addressed the issue of an unconstrained market. It is their view that the definition of an unconstrained market refers to the meshed transmission system and operational security constraints, and does not extend to connection assets”.

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participating in the market and to reduce their demand in response to price signals⁴. It is therefore likely to amount to a restriction to competition.

- The Utility Regulator will be aware of its commitment in the FWP to ensure that DSUs in Northern Ireland could trade in the SEM on an equal basis by September 2014 at the latest. SONI has been unable to clarify if, in regard to live DSU applications, it will fulfill its obligations in the Trading and Settlement Code to facilitate market entry in an efficient manner, whilst its proposal is with the Utility Regulator for consideration and whilst consent has not been received by NIE. We consider that this could amount to a licence breach by SONI and would further delay DSU market entry.

9. To assist the Utility Regulator, in the remainder of this paper we provide some further background and set out our:

- Understanding of the role of the Utility Regulator in this issue,
- Views on the stated technical concern,
- Analysis of the relevant NIE and SONI licence and statutory obligations, and
- Conclusions.

2.0: Further Background

10. To date, 201 MWs of capacity has been registered in the SEM in the Irish jurisdiction across 7 applicants. Two new applicants were accepted as recently as January 2015. There are other live applications with Eirgrid.

11. There are also live DSU applications with SONI for the Northern Irish jurisdiction. The first application was made in May 2014. In accordance with questions 12 and 13 of the application form, NIE was informed in writing by this applicant of its intentions on the 14 April 2014. The correspondence read:

“The SONI application forms for AGU and DSU ask if the DNO and NIE Market Services have been informed about a proposed intention to operate. Whilst we have been discussing our intention with

⁴ It is important to note that DSU are not applying to NIE for connection offers that, in accordance with NIE’s licence, involve a 90-day assessment process and a fee. The demand sites already have Connection Agreements and can vary demand from zero to the Maximum Import Capacity (MIC) under the terms of these agreements. Note also that the price signal to reduce demand will be even more transparent in i-SEM with the introduction of day-ahead and intra-day prices

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you for some time now, please now consider this as our formal notification. We will remain in contact with you as we progress all our applications. I was unable to find specific addresses on the NIE website for either NIE Market Services or the DNO. If this e-mail needs to be forwarded to the relevant persons, I would appreciate if you could copy me in”.

Whilst NIE have been fully aware of these applications, it has not requested any further information from our members and we are unaware of it conducting any modeling or analysis of the impact of demand reduction on the network.

12. Eirgrid and SONI chaired a DSU workshop during 2014 to consider ways of improving the application process, methodologies for performance testing, and resulting Grid Code modifications. The last meeting was in September 2014. Membership included Eirgrid, SONI, ESB Networks, NIE, and DSU actual and prospective market participants.
13. Grid Code modifications, resulting from the DSU workshop, were approved by CER towards the end of 2014. Importantly, these did not include a requirement for ESB Networks to consent to any demand site entering the market as part of a DSU.
14. The consent of NIE or ESB Networks for the inclusion of demand sites in a DSU is not a requirement in the Trading and Settlement Code, the Grid Codes, the Distribution Codes, Connection Agreements, or licences.

3.0: Our Understanding of the Role of the Utility Regulator in This Issue.

15. The Utility Regulator has a statutory duty to protect consumers, wherever appropriate by promoting competition. In the context of this duty, the Utility Regulator committed in its FWP to ensuring that DSUs in NI could compete in the SEM on an equal basis to all other market participants from September 2014 at the latest.
16. The Utility Regulator must ensure that licence holders comply with their licence obligations. In this paper we have set out our analysis of the NIE and SONI licence conditions relevant to this issue, including where there could be a licence breach. We have also provided our analysis of the NIE and SONI statutory obligations relevant to this issue.
17. The Utility Regulator approves Grid Code modifications and has been aware of the proposal by SONI (for NIE consent) and of the consultation responses for several months. We note that SONI provided no justification for this modification in its consultation and that no such consent is required from ESB Networks in the Irish Grid Code. The Utility Regulator must now decide if the proposed modification is acceptable.

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18. We understand that the System Operators have also recently asked the RAs to approve a revised DSU application process. Whilst we do not consider it to be the role of the RAs to approve the processes of licence holders, we do consider that the RAs should alert them to any potential licence breach that it becomes aware of. This is particularly the case when a process includes a consent requirement that does not exist in the Trading and Settlement Code, the Grid Code, the Distribution Code, any licence, or any Connection Agreement. We are concerned that licence holders could interpret silence to mean approval.

4.0: Our Views on The Stated Technical Concern.

19. The System Operators have provided no written technical explanation for its stated concern, either at the DSU workshop or to any of our members individually. We understand however that NIE and ESB Networks may be concerned that, in the event of a dispatch instruction to reduce demand at particular locations on the distribution network, the level of remaining demand may be insufficient to match the level of embedded generation at the same location. This in turn could result in issues with operational security.

20. NIE's proposed remedy for addressing this concern is to require every individual demand site to request the consent of NIE to be part of a DSU. NIE proposes to take up to 90 business days to assess the application and to charge a fee⁵. NIE will determine if any network upgrades are required before any individual demand site can be part of a DSU (even when the demand site is not exporting power onto the distribution network). It is unclear if ESB Networks are proposing something similar.

21. Some of our members have also applied to NIE for export capacity from some demand sites (using on-site generation) that wished to trade as part of an Aggregated Generator Unit (AGU) in the SEM⁶. NIE informed our members that, for network modelling purposes, it assumed that the demand at the particular demand site, and all demand local to that site, was zero (in most cases the resulting available network capacity from the modelling was zero)⁷. This seems rather inconsistent with the latest concern about DSU demand reduction from these same sites as demand cannot exist at one location in one modelling scenario, but not in another. We are concerned that in applying its Distribution Security and Planning Standards as required by Condition 19 of its licence (see later in this paper), NIE may be doing so inconsistently.

⁵ This fee is not allowed for in either NIE's Statement of Connection Charges or NIE's Statement of Use of System Charges.

⁶ NIE charged a fee of £1,300 per site.

⁷ We are also aware that NIE reported similar modelling assumptions for other embedded generation connection applications.

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22. We are also concerned that NIE may be only considering a worst case and unrealistic scenario. For example, NIE may only be assuming periods when demand at a location is low and generation output is high. NIE may also be assuming that the level of generation output at these locations could not be reduced (either by dispatch or automatically) or that it could not flow to serve demand at other locations. Given the relatively high opportunity cost of demand reduction, it is more likely to occur during periods of peak demand and/or periods of generation scarcity. In these circumstances, one would have thought that demand reduction, in a controlled manner, is more likely to be desirable than undesirable to maintain operational security. The proposal by SONI however could remove the option of demand reduction at particular demand sites in all circumstances. We consider that, with this approach, NIE may not be maintaining an efficient system of electricity distribution. This could amount to a breach of Article 12 (1) of the Electricity Order and/or Conditions 19 and 27 of NI's licence (see later in this paper).
23. We also note that the proposal includes an assessment by NIE of a requirement for network upgrades. This seems somewhat counter-intuitive given that paragraph 2 of Condition 19 of NIE's licence implies that demand-side management can provide an alternative to network upgrades:
- "Where, in planning the development of the Distribution System, the Licensee considers it might be necessary to upgrade or replace the present and/or future capacity of the Distribution System, it shall before deciding to proceed with any such upgrade or replacement consider whether, in the circumstances of the case, energy efficiency, demand-side management or distributed generation measures may (whether in whole or in part) be more appropriate than the proposed upgrade or replacement of the present or future capacity."
24. We are unaware of any work carried out by NIE to access demand-side management as an alternative to network upgrades. Whilst our Members have been very willing to share all information with NIE about the demand sites that wish to participate in the market, and which are detailed in the SONI applications, NIE has to date not requested any such information from our members.
25. Facilitating demand side participation has been a feature of energy policy for years. The Trading and Settlement Code and Grid Code have provided for DSUs from 2007, and the Distribution Code since 2009. In planning, developing, maintaining and operating the network, in accordance with the Distribution System Security and Planning Standards, it would therefore seem rather short-sighted, in our view, to not take into consideration the potential for dispatched demand-side reductions.

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26. Clearly this has not been a technical issue to date for Eirgrid (or ESB Networks) in Ireland who have certified 201 MWs of DSU capacity across 7 operators. Nor was it an issue in Northern Ireland under previous demand-side reduction schemes. In Ireland, the Winter Peak Demand Reduction scheme ran in Ireland for 10 years (2003 to 2013), where a significant amount of demand was reduced in a coordinated fashion across sites throughout the country during winter peak times. During the Winter 2011/2012 scheme, 252 customers delivered 16,500MWh of demand reduction. Members of the DRAI also participate in Demand Response Programmes in 11 countries, interacting with over 150 DSOs or DNOs. This problem has not been encountered despite many of these systems having a high penetration of renewables and distribution connected generation.
27. In any case, even if there was a risk to operational security at any location on the distribution network, as described later in this paper, the Scheduling and Dispatch Code of Grid Code already provides a clear and established process for managing this risk. SONI must take into consideration any operational constraints that exist in regard to the distribution network before issuing dispatch instructions. Therefore, we see no reason why Grid Code needs to be modified, or any other process needs to be approved by the Utility Regulator, to allow NIE to delay or prevent market entry by a demand site.

5.0: Our Analysis of the Relevant NIE Licence Conditions.

28. Overall, NIE has responsibility for the development and maintenance of the transmission network and for the planning, development, operation and maintenance of the distribution network. In our view, the NIE licence conditions that are relevant to this issue are:

29. Condition 15: Non-Discrimination. Paragraph 1 states that:

“The Licensee shall not (and shall procure that the Relevant Subsidiary shall not) unduly discriminate as between any persons, or any class or classes of person or persons, or unduly prefer itself (or any affiliate or related undertaking) over any other person or persons, or any class or classes of person or persons, in meeting its obligations under Conditions 17, 19 and 30”.

In our view a requirement for a consumer, who already has a connection agreement with NIE, to obtain its consent to participate in the market as part of a DSU amounts to undue discrimination. This is because no other classes of persons, who have connection agreements, and trade in the SEM, require such consent. We also note that consumers can respond to price signals in passthrough tariffs with Suppliers. They do not require NIE consent for this.

30. Condition 17: Distribution Interface Arrangements. Paragraph 1 states that:

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“The Licensee shall, in common with the Transmission System Operator, prepare, obtain the Authority’s approval of, and at all times have in force, implement and comply with, arrangements (the “**Distribution Interface Arrangements**”) which:

(a) set out (to the extent not catered for in the Grid Code or the Distribution Code) the terms and arrangements for connection of the transmission system to the Distribution System, and the terms and arrangements between the Licensee and the Transmission System Operator that are requisite for the enjoyment and discharge of the rights and obligations of:

(i) the Licensee in relation to the Distribution Business arising under the Order, the Energy Order, the SEM Order, this Licence and such other code or document as may be specified from time to time by the Authority; and

(ii) the Transmission System Operator arising under the Order, the Energy Order, the SEM Order, its licence, and such other code or document as may be specified from time to time by the Authority.”

The rationale for these interface arrangements is obvious, given the ownership and split of responsibilities between NIE and SONI. In particular, given that SONI has Grid Code responsibility for dispatching distribution-connected Generating Units (including DSUs), it is very important that NIE and SONI have adequate arrangements in place to share information in regard to the location of Generation Units and any constraints on the distribution network. The sharing of this information is how operational security should be managed rather than by preventing market entry for Generating Units that already have connection agreements with NIE.

31. Condition 19: Distribution System Security and Planning Standards and Operation of the Distribution Network. Paragraphs 1, 2 and 3 state that:

1. The Licensee shall plan, develop and maintain and operate (including, without limitation and where necessary, coordinating the flow of electricity over) the Distribution System in accordance with:

(a) the Distribution System Security and Planning Standards; and/or

(b) such other standard of planning and operation as is adopted, from time to time, by the Licensee (with the approval of the Authority and following consultation with those electricity undertakings liable to be materially affected thereby),

in each case as appropriate to the purpose under consideration.

2. Where, in planning the development of the Distribution System, the Licensee considers it might be necessary to upgrade or replace the present and/or future capacity of the Distribution System, it shall before deciding to proceed with any such upgrade or replacement consider whether, in the circumstances of the case, energy efficiency, demand-side management or distributed generation measures may (whether in whole or in part) be more appropriate than the proposed upgrade or replacement of the present or future capacity.

3. The Licensee shall, not later than such date as the Authority may specify and in consultation with the Authority, prepare and from time to time modify a written policy setting out the manner

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in which the Licensee proposes to comply, in connection with the maintenance of an efficient, economical and co-ordinated Distribution System, with all applicable European Union and United Kingdom environmental laws. Such written policy may be prepared as a constituent part of the statement which the Licensee is required to prepare by paragraph 2(1) of schedule 9 of the Order.

We consider that there are three relevant points in this condition.

- First, NIE must plan, develop, maintain and operate the distribution network in accordance with the approved Distribution System Security and Planning Standards. Although this is defined as a single document, we have not been able to find such a document on the NIE website. Nonetheless, it is obvious that the dispatch of DSUs should not compromise the security of the distribution network. This is something that SONI, under Grid Code, is obliged to consider prior to issuing dispatch instructions (see later in this paper). We are concerned however, as described earlier, that NIE may not be applying consistent assumptions in regard to demand and embedded generation.
- Second, NIE must consider demand-side management as an alternative to replacing or upgrading network capacity. We have seen no evidence of this and, as described earlier, find it rather counter-intuitive that NIE is instead focusing on the potential need for network upgrades to facilitate demand-side management.
- Finally we have seen no evidence of an NIE policy to comply with EU and UK environmental laws. We would assume that environmental laws include the Energy Efficiency Directive.

32. Condition 27: Distribution Code. Paragraph 1 states that:

Subject to paragraph 13, the Licensee shall prepare and at all times have in force, and shall (subject to paragraph 12) implement and comply with, a Distribution Code:

(a) covering all material technical aspects relating to connections to and the operation and use of the Distribution System or (insofar as relevant to the operation and use of the Distribution System) the operation of electric lines and electrical plant within Northern Ireland connected to the Distribution System or any other system in Northern Ireland for the distribution of electricity and (without prejudice to the foregoing) making express provision as to the matters referred to in paragraph 6; and

(b) which is designed so as to:

(i) permit the development, maintenance and operation of an efficient, co-ordinated and economical system for the distribution of electricity; and

(ii) neither prevent nor restrict competition in the generation and supply of electricity in Northern Ireland, or, to the extent that the Distribution Code may have such effect, on the Island of Ireland.

We consider that there are two relevant points in this condition:

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- First, The Distribution Code must cover all material technical aspects relating to connections and use of the Distribution System. Furthermore, DSU is a defined term on the Distribution Code. Therefore, all material technical aspects that are relevant for DSUs should be included in the Distribution Code. However there is no Distribution Code condition that requires demand sites that wish to be part of a DSU to obtain the consent of NIE. Nor is there any restriction on connected demand sites varying demand between zero and their Maximum Import Capacity (MIC).
- Second, the design of the Distribution Code cannot prevent nor restrict competition in the generation or supply of electricity in the SEM. We consider that a condition, on demand sites only, to require the consent of NIE to enter the SEM could amount to the prevention or restriction of competition.

6.0: Our Analysis of the Relevant NIE Statutory Obligations.

33. In our view the NIE statutory obligation that is relevant to this issue is: Article 12 (1) of The Electricity (Northern Ireland) Order 1992. This places a general duty on NIE to:

“Develop and maintain an efficient, coordinated and economical system of electricity distribution which has the long-term ability to meet the reasonable demands for the distribution of electricity, and

Facilitate competition in the supply and generation of electricity”.

The language above is the same as that found in Condition 27 of NIE’s licence: “Distribution Code” (see above), which must be designed to permit NIE to fulfill this statutory duty. Furthermore, Condition 17 of NIE’s licence: “Distribution Interface Arrangements”, which must set out, to the extent not catered for in the Grid Code or the Distribution Code, the terms and arrangements between the Licensee and the Transmission System Operator that are requisite for the enjoyment and discharge of the rights and obligations, including statutory obligations. Therefore, we consider that NIE’s statutory obligation is given effect by Conditions 17 and 27 of NIE’s licence.

7.0: Our Analysis of the Relevant SONI Licence Conditions:

34. Overall, SONI has responsibility for the planning and operation of the transmission network. This includes the central dispatch of all Generating Units (including DSUs) that are registered in the

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SEM, and are connected to either the transmission or distribution network. In our view, the SONI licence conditions that are relevant to this issue are:

35. Condition 15: Non-Discrimination. Paragraph 1 states:

“In undertaking the Transmission System Operator Business, the Licensee shall not unduly discriminate as between any persons or class or classes of persons (including itself in undertaking any activity other than the Transmission System Operator Business)”.

As described earlier, SONI has responsibilities, in accordance with paragraph 2.33 of the Trading and Settlement Code, in regard to the registration of Generating Units (including DSUs) in the SEM. In our view a requirement by SONI for a consumer, who already has a connection agreement with NIE, to obtain NIE’s consent to participate in the market as part of a DSU amounts to undue discrimination. This is because there is no such requirement for any Generating Unit (including DSUs) in the Trading and Settlement Code, the Grid Code, the Distribution Code, licences or connection agreements.

36. Condition 16: Grid code. We consider paragraphs 1 and 6 to be relevant to this issue:

1: The Licensee shall prepare and at all times have in force, and shall (subject to paragraph 12) implement and comply with, a Grid Code:

(a) covering all material technical aspects relating to connections to and the operation and use of the total system or (insofar as relevant to the operation and use of the total system) the operation of electric lines and electrical plant within Northern Ireland connected to the total system or any other system in Northern Ireland for the transmission or distribution of electricity and (without prejudice to the foregoing) making express provision as to the matters referred to in paragraph 6.

(c) which is, in respect of the distribution system, designed so as to:

(a) permit the development, maintenance and operation of an efficient, co-ordinated and economical system for the distribution of electricity; and

(b) neither prevent nor restrict competition in the generation and supply of electricity in Northern Ireland, or, to the extent that the Grid Code, in respect of the distribution system, may have such effect, on the Island of Ireland.

6: The Grid Code shall include:

(d) a set of scheduling and dispatch codes specifying conditions and procedures for the scheduling and dispatch of generation sets connected at an entry point or exit point on the total system which are either:

(a) required to be subject to central dispatch instructions under the terms of any exemption granted under Article 9 of the Order or any licence granted under Article 10 of the Order; or

(b) are agreed by the operator of that generation set to be subject to central dispatch; and which

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may include provisions relating to the management of emissions;

We consider that there are three relevant points in this condition:

- First, the Grid Code must cover all material technical aspects relating to connections to and the operation and use of the total system (which includes the transmission and distribution systems). Furthermore, DSU is a defined term on the Grid Code. Therefore, all material technical aspects that are relevant for DSUs should be included in the Grid Code. However there is no Grid Code condition that requires demand sites that wish to be part of a DSU to obtain the consent of NIE. Nor is there any restriction on connected demand sites varying demand between zero and their Maximum Import Capacity (MIC).
- Second, in respect of the distribution system, the design of the Grid Code cannot prevent nor restrict competition in the generation or supply of electricity in the SEM. We consider that a condition, on demand sites only, to require the consent of NIE to enter the SEM could amount to the prevention or restriction of competition.
- Finally, the Scheduling and Dispatch Code is designed to take account for the technical issue that we understand NIE to be concerned about. We explain this in more detail below:

37. The Scheduling and Dispatch Code.

- SONI is responsible, under Grid Code, for scheduling and dispatching all available Generators, including distribution-connected DSUs, which are subject to Central Dispatch. Understandably, in dispatching these Generators, SONI cannot compromise the stability or security of the “total system” (which is the transmission and distribution systems).
- SONI begin by compiling an economic Merit Order derived from the Commercial Offer Data of all available DSUs (see SDC 1.4.8.2). SONI is then required to take account of and give weight to a number of technical factors (see SDC 1.4.8.3). SONI then compiles an Indicative Operations Schedule (see SDC 1.4.8.4) based on the Merit Order and these technical factors, considered together. The technical factors include:
 - a) The requirements, as determined by the TSO, for Voltage Control of the NI System (which includes the Distribution System),

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- b) The requirements, as determined by the TSO, for maintaining Frequency Control of the NI System (which includes the Distribution System),
 - c) Other matters to enable the TSO to meet its Licence Standards. This is defined as the standards in Condition 20 on SONI's licence. These include the Distribution System Security and Planning Standards.
 - d) Other technical related factors which may constrain the Output or Demand Reduction of a Plant as the case may be both immediately and in the longer term,
 - e) Other factors as may be reasonably considered by the TSO to be relevant to the Indicative Operating Schedule.
- Grid Code then requires SONI to dispatch Generators, including DSUs, on the basis of this Indicative Operating Schedule. It is very clear from the above that SONI, when considering the dispatch of DSUs, is required to take into account and give weight to the very issue that NIE has raised. The technical treatment is clearly set out in Grid Code.
 - It is also clear that a dispatch instruction can only be issued after SONI it has taken account of and given weight technical factors, including any operational constraints on the distribution network. Therefore the term "dispatchable" only relates to the technical capability of the Generating Unit, and does not include network technical considerations.

38. Condition 18A: Distribution Interface Arrangements. We consider that paragraph I is relevant to this issue:

1: The Licensee shall, in common with the Distribution System Owner, prepare, obtain the Authority's approval of, and at all times have in force, implement and comply with, arrangements (the "**Distribution Interface Arrangements**") which:

(a) set out (to the extent not catered for in the Grid Code or the Distribution Code) the terms and arrangements for connection of the transmission system to the Distribution System, and the terms and arrangements between the Licensee and the Distribution System Owner that are requisite for the enjoyment and discharge of the rights and obligations of:

(i) the Distribution System Owner in relation to the Distribution Business arising under the Order, the Energy Order, the SEM Order, this Licence and such other code or document as may be specified from time to time by the Authority; and

(ii) the Licensee arising under the Order, the Energy Order, the SEM Order, its licence, and such other code or document as may be specified from time to time by the Authority.

These provisions are similar to those in Condition 17 of NIE's licence.

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39. Condition 22: Central Dispatch and Merit Order. We consider paragraphs 1 and 2 to be relevant to this issue:

1: The Licensee shall, in conjunction with the Republic of Ireland System Operator, schedule SEM Generation, and ensure that direct instructions for the dispatch of SEM Generation are issued, in accordance with paragraphs 2, 3, 4 and 5.

2: Having regard to information provided to it by the Republic of Ireland System Operator and authorised electricity operators (including as to forecast levels of electricity demand and availability of generation capacity), to forecast levels of electricity available to be transferred to or from the Island of Ireland across any Interconnector and to the requirements of the Transmission System Security and Planning Standards, the Distribution System Security and Planning Standards and the Republic of Ireland Operating Security Standards, the Licensee shall, in conjunction with the Republic of Ireland System Operator, undertake operational planning:

(a) for the matching of SEM Generation output (including a reserve of SEM Generation to provide a security margin of SEM Generation availability) with forecast demand on the Island of Ireland after taking into account, inter alia:

(a) unavailability of generation sets and/or Interconnector transfers;

(b) constraints from time to time imposed by technical limitations on the All-Island Networks or any part thereof; and

(c) electricity delivered to the All-Island Networks from generation sets not subject to central dispatch

The relevant points from this condition are similar to those from Condition 16 (“Grid Code”). In particular, we note that SONI must take into account constraints from time to time imposed by technical limitations on the All-Island Networks (which includes the NI distribution network).

40. Condition 23: SEM Trading and Settlement Code. We consider paragraph 1 to be relevant to this issue:

1: The Licensee shall accede to the Single Electricity Market Trading and Settlement Code and comply with it in so far as applicable to it in its capacity as:

(a) the system operator in respect of the transmission system;

The relevant point from this condition is that SONI must comply with its obligations to under the Trading and Settlement Code. This includes an obligation to issue notices of Operational Readiness Confirmation, and to confirm Registration Data for DSUs. SONI cannot delay in adhering to these obligations just because it has requested a Grid Code modification in regard to DSUs or approval for a change to its DSU application process.

8.0: Our Analysis of the Relevant SONI Statutory Obligations.

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41. Article 12 (2) of the Order places a general duty on SONI, as appropriate having regard to the activities authorised by the licence, to take such steps as are reasonably practicable to:

- ensure the development and maintenance of an efficient, co-ordinated and economical system of electricity transmission which has the long-term ability to meet reasonable demands for the transmission of electricity; and
- contribute to security of supply through adequate transmission capacity and system reliability; and
- facilitate competition in the supply and generation of electricity.

The language above is similar to that found in Condition 16 of SONI’s licence: “Grid Code”, which must be designed to permit NIE to fulfill this statutory duty.

Furthermore, Condition 18A of SONI’s licence: “Distribution Interface Arrangements”, which must set out, to the extent not catered for in the Grid Code or the Distribution Code, the terms and arrangements between the Licensee and the Distribution System Owner that are requisite for the enjoyment and discharge of the rights and obligations, including statutory obligations.

Therefore, we consider that SONI’s statutory obligation is given effect by Conditions 16 and 18A of NIE’s licence.

9.0: Conclusions

- The terms of the Grid Code, the Distribution Code and the SONI/NIE Interface Arrangements are designed by SONI and NIE and must be requisite for the discharge of their respective statutory and licence obligations. This includes the management of any operational constraints on the distribution network.
- The SEM high-level design is unconstrained. In other words, the Merit Order is constructed ignoring network constraints (both physical and operational). In constructing the Indicative Operating Schedule, and before issuing Dispatch Instructions, in accordance with Grid Code, SONI must, amongst other things, take into account and give weight to any operational constraints on the distribution network. The trading and Settlement Code makes provision for

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payments to Generating Units whose Output or Demand Reduction is consequently constrained.

- Therefore the regulatory arrangements already address NIE's stated concern.
- There is nothing in statute, any licence, the Grid Code, the Distribution Code, the Trading and Settlement Code, or connection agreements, that would permit either NIE or SONI to prevent an electricity customer from offering to reduce demand in response to a price signal or from participating in the SEM. To do so, only for DSUs in NI, could amount to undue discrimination and the restriction or prevention of competition.
- NIE has been fully aware for a considerable time of energy policy and legislation in regard to demand-side management, and of the intent of NI DSU operators to trade in the SEM. However, NIE does not appear to have given this any material consideration to date, and NIE has not asked for any information in regard to DSU applications or provided any analysis to support its stated concern. It is difficult not to conclude that the proposal for NIE consent is an expedient alternative to the proper application of the Grid Code, the Distribution Code and the NIE/SONI Interface Arrangements.
- NIE appear to be using inconsistent and unrealistic assumptions in regard to its application of the Distribution System Security and Planning Standards. This may also be inconsistent with NIE's statutory duty to develop and maintain an efficient, coordinated and economical system of electricity distribution.
- We have found no evidence that the issue raised by NIE has been a material issue in other jurisdictions, including Ireland and GB.
- Our members have already experienced a significant delay to market entry, at a significant cost to both investors and NI consumers. In these circumstances, it is very important that the Utility Regulator ensures that both NIE and SONI comply with their licence obligations in an efficient manner, and that there are no further delays to market entry.

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